SERVICE MANUAL



US Model AEP Model **UK Model** E Model D-Z555

Model Name Using Similar Mecanism	D-250
Tape Transport Mechanism Type	CDM-555

SPECIFICATIONS

CD section

Compact disc digital audio system System Laser diode properties Material: GaAlAs

Wavelength: 780 nm Emission duration: Continuous

Laser output: Less than 44.6 μW This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

Sony Super Strategy Cross Interleave Reed Solomon Code 16-bit linear, 8fs digital filter 20 – 20,000 Hz ±1 dB*

More than 90 dB

Error correction D-A conversion

Frequency response Signal-to-noise ratio

Wow and flutter

Outputs (at 9 V input level)

Below measurable limit*

Line output (stereo minijack)
Output level 0.7 V rms at 50 kilohms
Load impedance over 10 kilohms

Optical digital output (optical output connector)
Output level: -21 - -15 dBm
Wavelength: 630 - 690 nm at peak level
Headphones (stereo minijack)

9 mW + 9 mW at 32 ohms

General

Power requirements

Supplied rechargeable battery pack (BP-2EX) or BP-100 (optional) DC IN 9 V jack accepts:

Supplied AC power adaptor for use on 120V AC, 60 Hz Sony CPM-200P car mount plate (optional) or

Sony DCC-120A car battery cord (optional) for use on

12 V car battery 3.2 W DC

Power consumption

Dimension

Weight

3.2 W DC Approx. 127.6 \times 33 \times 145 mm (5 \times 1⁵/₁₆ \times 5¹¹/₁₆ inches) (w/h/d) not incl. inclined part (depth), projecting parts and controls Approx. 130 \times 33.8 \times 145.5 mm (5¹/₆ \times 1⁵/₁₆ \times 5¹¹/₁₆ inches) (w/h/d) incl. projecting parts and controls Approx. 520g (1.2lb) not incl. rechargeable battery Approx. 600g (1.5lb) incl. rechargeable battery (BP-2EX) AC nower adaptor (1)

Supplied accessories AC power adaptor (1)

Rechargeable battery pack (1)

Carrying case (1)

Connecting cord (1) (stereo miniplug - two phono plugs)

Design and specifications subject to change without notice.

* Measured by EIAJ CP-307

Notes on AC power adaptor

- Disconnect the AC power adaptor when the unit will not be used.
- · Use only the supplied AC power adaptor or the recommended car battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.

Polarity of the Sony plug

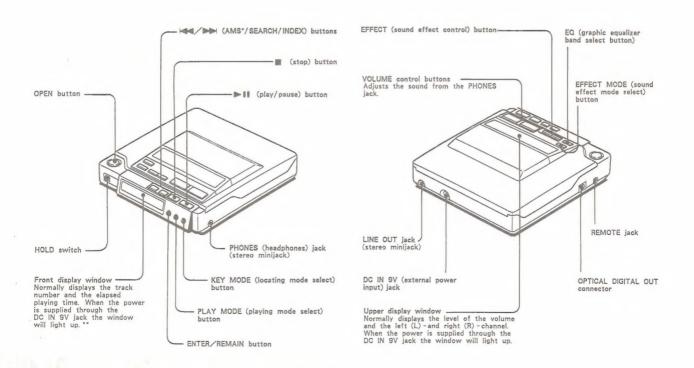


COMPACT DISC COMPACT PLAYER SONY

TABLE OF CONTENTS

Section	<u>Title</u>	Page	<u>S</u>	ection	<u>Title</u>	Page
Specifications		1	3.	ELECTRICAL	ADJUSTMENTS	6
1. GENERAL			4.	DIAGRAMS		
Location and	Fanction of Controls	2		4-1. Wavefo	rms·····	12
				4-2. Block I	Diagram · · · · · · · · · · · · · · · · · · ·	13
2. SERVICING N	OTES			4-3. Printed	Wiring Boards-Main Section	—···· 16
Notes on Ha	nding the Optical Pick-up	Block · · 3		4-4. Schema	tic Diagram-Main Section-	21
Flexible Circ	uit Board Reparing	3		4-5. Schema	tic Diagram-Servo Section-	24
Notes on Ch	ip Component Replacemen	3		4-6. Printed	Wiring Boards—Servo Section	n- · · · 27
Before Replac	cing the Optical Block ···	3		4-7. IC Bloc	k Diagram ·····	31
Notes on Las	ser Diode Emission Check	4				
Laser Diode	Check Procedure	4	5	EXPLODED Y	/IEWS	33
Service Mode	e (service program) ······	5				
			6	ELECTRICAL	PARTS LIST	37

SECTION 1 GENERAL



- ** If lit for a long time, the unit may become warm, but that is not a problem.

SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron at 270° ± 10°C during repairing.
- Do not touch the soldering iron more than 4 seconds or 3 times on the same conductor of the circuit board.
- Do not apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Before Replacing the Optical Block

Please be sure to check thoroughly the parameters as par the "Optical Block Checking Procedures" (Part No.: 9-960-027-11) issued separately before replacing the optical block.

Note and specifications required to check are given below.

- FOK output: IC501 9 pin
 When checking FOK, remove the lead wire to disc
 motor and unsolder and open IC801 24 pin.
- S carve P-to-P value: 2.95 Vp-p
- Adjusted part for focus gain adjustment: RV505
- RF signal P-to-P value: 0.75 1.4 Vp-p
- Traverse signal P-to-P value: 1.8 Vp-p
- The grating holder can not repair.
- Adjusted part for tracking gain adjustment: RV501

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK A OR DOTTED LINE WITH MARK ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe, from more than 30 cm away from the objective lens.

Laser Diode Check Procedure

The laser diode on this set will not emit unless the top panel is closed and S901 (leaf SW type) is turned on. The laser diode will always emit even if focus search is not performed in service mode.

The laser diode is checked using the current value which flows to the laser diode inside the UPF.

Procedure 1 (service mode or normal operation) Check the laser diode emission with the eye.

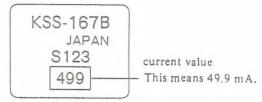
- 1. Open upper panel.
- S901 on as Fig. 1. (In service mode, this operation is not necessary.)
- Press the ►II key.
 (In service mode, this operation is not necessary.)
- 4. Observe the objective lens and confirm that the laser diode is emitting light. At this time, the laser diode goes on about 10 seconds due to focus serarch. If it does not, APC circuit or UPF is defective.



Fig. 1 Turning S901 on

Procedrue 2 (service mode or normal operation)
Check by the curent with flows in the laser diode.

- 1. Close the top panel.
- Remove the main board and read the current value on the label affixed to the UPF. (Label on UPF)



The current value varies with the set.

- 3. Connect a VOM as shown in Fig. 2.
- 4. Press the ▶ 11 key.
- 5. Calculate the current by the VOM reading.

 VOM reading (V) ÷ 10 = current (A)

 ex. VOM reading = 0.49 V

 0.49 ÷ 10 = 0.049 (A) = 49 (mA)
- 6. Confirm that the ammeter reading is within the range given below.

value on label $^{+5}_{-11}$ mA (25°C) variation relative to temperature: 0.4 mA/°C

(Current increases when temperature rises and decreases when it drops.)

If the value is more than the range given, APC circuit has been defective or the laser diode has deteriorated. If it is less, APC circuit or UPF is defective.

- servo board -

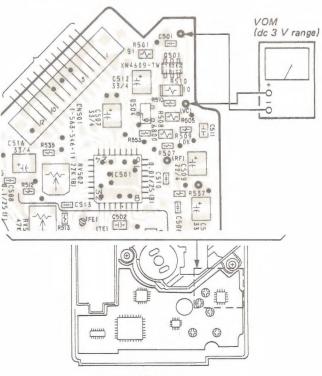
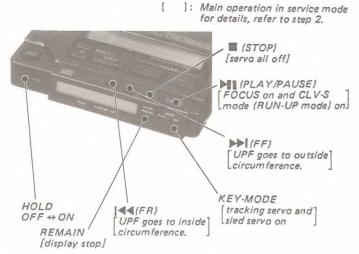


Fig. 2 VOM Connection

SERVICE MODE (service program)

This set has built-in service program in the microcomputer as usual sets.

The operation method of service program is explained below.



Be sure to set HOLD switch OFF.
If not key inputs can not be operated.

Fig. 3 Key Positions

Step 1 (Service Mode setting method)

- Turn the HOLD switch OFF with the external power supply not plugged in (no power applied to set) and press the key.
- Sölder jumper TEST point.
 (IC801 pin 9 (BAT-E) pin is grounded.
- Plug in external power supply.
 This puts the set into service mode.

- main board -

Step 2 (Service Mode operation)

- When service mode is set, the display will change 6 times, and those 6 changes will be repeated over and over.
 With this the LCD display should be present
 - With this the LCD display should be present in service mode. Even if LCD does not display, other operations will be performed.
- When ▶ or ◄ key is pressed, the UPF moves to the inside or outside circumference. Tracking servo and sled servo go off when this is done, so press KEY-MODE to turn on the tracking servo if necessary.
- When REMAIN is pressed, the display stops.
 When REMAIN is released, the display continues to change. This allows check of each segment.
- 4. When I key is pressed, CLV-S (pull-in mode) starts while performing focus search. When there is no disc installed, focus search is repeated several times while disc motor is rotating.
- When KEY-MODE is pressed, tracking servo, sled servo and CLV-A (servo during PLAY) go ON.
- When 4 and 5 are performed, the disc begins to play. At this time, the top panel should be closed and \$901 are to be ON.
- All servo (focus, tracking, sled and spindle) go off when ■ key is pressed. But disc motor continues rotating for a while by inartia.

Step 3 (Service Mode release)

- First be sure to unplug the external power supply, then remove the TEST point solder jumper.
- 2. The set will now operated normally.

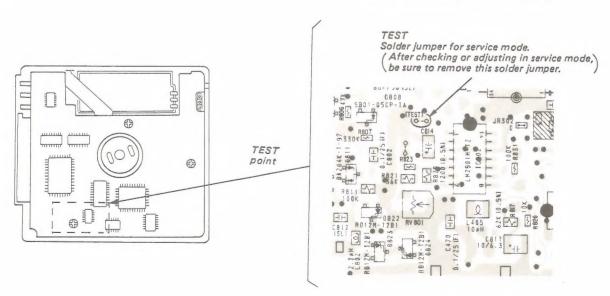


Fig. 4 TEST Point Position

SECTION 3 ELECTRICAL ADJUSTMENTS

Notes on Adjustment

 Perform adjustments except for RECHARGEA-BLE VOLTAGE ADJUSTMENT and BATTERY DISPLAY ADJUSTMENT in service mode. Be sure to release service mode after completing adjustment.

(Refer to "Service Mode (service program)" on page 5.)

- 2. Perform adjustments in the order given.
- 3. Use YEDS-18 disc (part No.: 3-702-101-01) unless otherwise indicated.
- 4. Power supply voltage: DC 9 V HOLD switch: OFF

PREPARATION

Put the set into service mode (see page 5) and perform the following checks. Repair if there are any abnormalities.

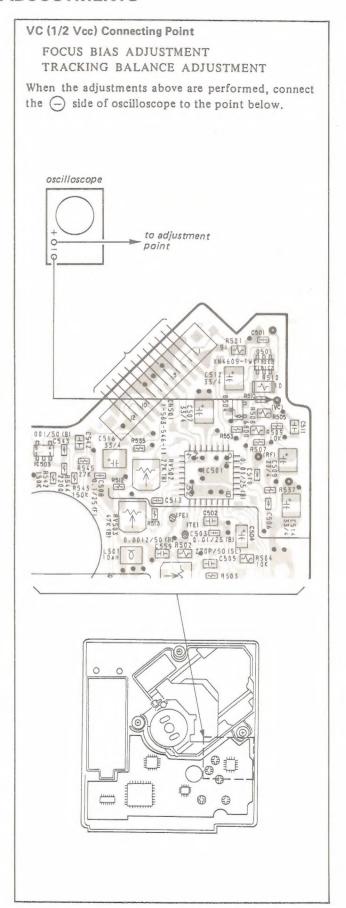
- Sled Motor Check
- 1. Press the OPEN button and open the top panel.
- Press the → , keys and make sure that the UPF moves smoothly, without catching, from the inmost → outmost → inmost circumference.

►► : UPF moves outward

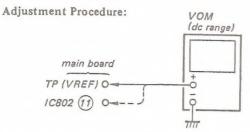
✓ : UPF moves inward

- · Focus Search Check
- 1. Press the OPEN button and open the top panel.
- 2. Press the ► key. (Focus search is performed continuously.)
- Observe the UPF objective lens and check that it moves smoothly up and down with no catching or noises.
- 4. Press the key.

Check that focus search operation stops. If it does not stop, press the key again longer than before. But disc motor continues rotating for a while by inartia.

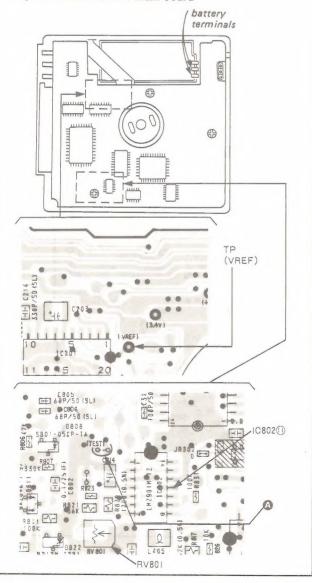




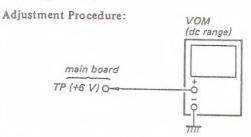


- 1. Apply dc +3.5 V to terminals for bult in battery (BP-2).
- 2. Insert the disc (YEDS-18) and put the set into play mode.
- 3. Adjust RV801 so that main board IC802 (1) voltage and TP (VREF) voltage are equal.
- 4. If IC802 (1) voltage is heigher than TP (VREF) voltage when turning the RV801 fully counter-clockwise, short the jumper point (A) as shown below and adjust RV801.

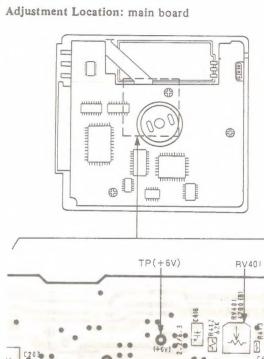
Adjustment Location: main board

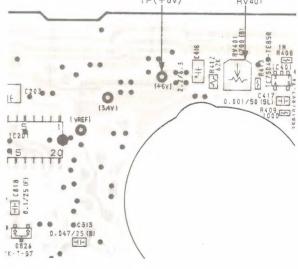


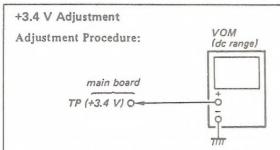
+6 V Adjustment



- 1. Put the set into service mode (see page 5).
- 2. Connect the VOM to main board TP (+6 V).
- Adjust RV401 for +6 ±0.1 V reading on the VOM.
- After adjustment, release service mode (see page 5).







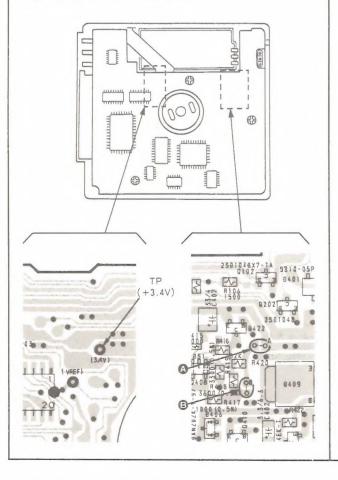
- 1. Put the set into service mode (see page 5).
- 2. Connect the VOM to main board test point TP (+3.4 V).
- 3. Adjust the pattern connecting (or) to obtain 3.4 to 3.55 V reading on the VOM.

pattern co	nnection	\/O14 di		
A	a	VOM reading		
0	X	down		
×	×	1		
×	0			
0	0	up		

O: short X: open

4. After adjustment, release service mode (see page 5).

Adjustment Location: main board

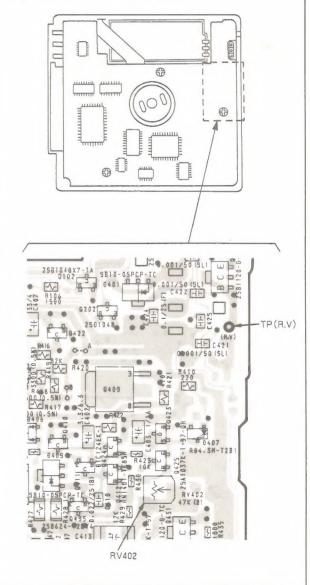


Rechargeable Voltage Adjustment Adjustment Procedure: WOM (dc range) main board TP (R. V) 0

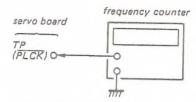
- Connect the VOM to main board test point TP (R.V).
- 2. Apply DC 9 V with requrated dc power supply from external power jack CN401.
- 3. Adjust RV402 for 7.05 7.5 V reading on the VOM

Note: Measure after the VOM reading becomes stable.

Adjustment Location: main board

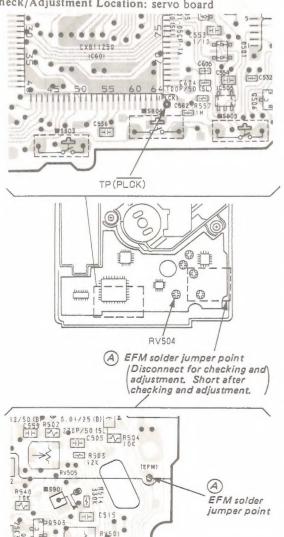


PLL Free Run Frequency Check and Adjustment Check/Adjustment Procedure:



- 1. Disconnect the jumper point (A) (EFM) in the diagram below.
- 2. Connect a frequency counter to servo board test point TP (PLCK).
- 3. Put the set into service mode (see page 5).
- 4. Check that the frequency counter reading is 4.3218 ±0.01 MHz. If not, adjust RV504 so that it is 4.3218 ±0.01 MHz.
- 5. After adjustment, release service mode (see page
- 6. Short the jumper point shorted in step 1.

Check/Adjustment Location: servo board

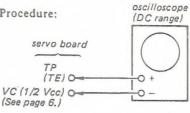


Tracking Balance Adjustment

Conditions:

The set should be placed either horizontally.

Adjustment Procedure:



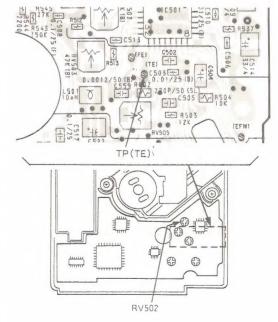
- 1. Connect the oscilloscope to servo board TP (TE).
- 2. Put the set into service mode (see page 5).
- 3. Press the ▶▶ and I◀ keys to move the UPF to the center.
- 4. Insert the disc (YEDS-18) and close the top panel.
- 5. Press the >11 key. /It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.
- 6. Adjust RV502 so that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0 V

Note: Take sweep time as long as possible to obtain best waveform



- 7. Unplug the external power supply to stop spindle motor from rotating.
- 8. After adjustment, release service mode (see page 5).

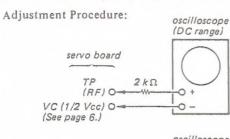
Adjustment Location: servo board

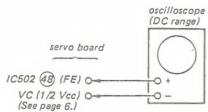


Focus Bias Adjustment

Conditions:

The set should be placed either horizontally.



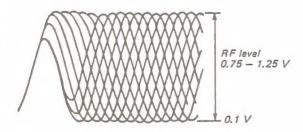


- 1. Put the set into service mode (see page 5).
- 2. Connect the oscilloscope to servo board test point TP (RF).
- 3. Press the A and keys to move the UPF to the center. (Move the UPF to the music area on the disc to enable easy visibility of the eye pattern).
- 4. Insert the disc (YEDS-18) and close the top panel.
- 5. Press the In key.

It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.

- 6. Press the KEY-MODE button. (Tracking and sled go ON.)
- 7. Adjust RV503 so that the oscilloscope waveform eye pattern is good. A good eye pattern means that the diamond shape (0) in the center of the waveform can be clearly distinguished.
- RF Signal Reference Waveform (eye pattern)

VOLT/DIV: 200 mV TIME/DIV: 500 nS



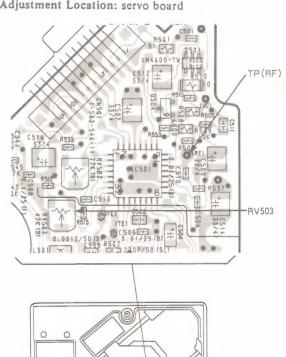
When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

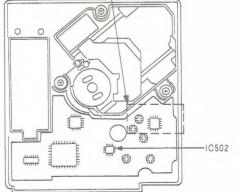
- 8. Push the (STOP) button spindle motor from rotating and remove the disc.
- 9. Remove the disc and connect the oscilloscope to main board IC502 (48) (FE).
- 10. Adjust RV503 again refering to the table followed,

oscilloscope reading	adjustment
more than +50 mV	Not adjust again.
+50 mV ~ +20 mV	Adjust RV503 again for +50 mV reading on oscilloscope.
+20 mV ~ -20 mV	Adjust RV503 again for -20 mV reading on oscilloscope.
less than -20 mV	Not adjust again.

11. After adjustment, release service mode (see page

Adjustment Location: servo board





Focus/Tracking Gain Adjustment

A frequency responce analyzer or CD jig is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perfrom this adjustment.

Focus/tracking gain determines the pick-up followup (vertical and horizontal) relative to mechanical noise and metchnical shock when the 2-axis device operate. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is high, the noise when the 2-axis device operates increases.
- When gain is low, it is more susceptible to mechanical shock and skipping occurs more easily.

This adjustment is to be performed when replacing the following parts:

- optical pick-up block
- RV505 (focus gain VR)
- RV501 (tracking gain VR)

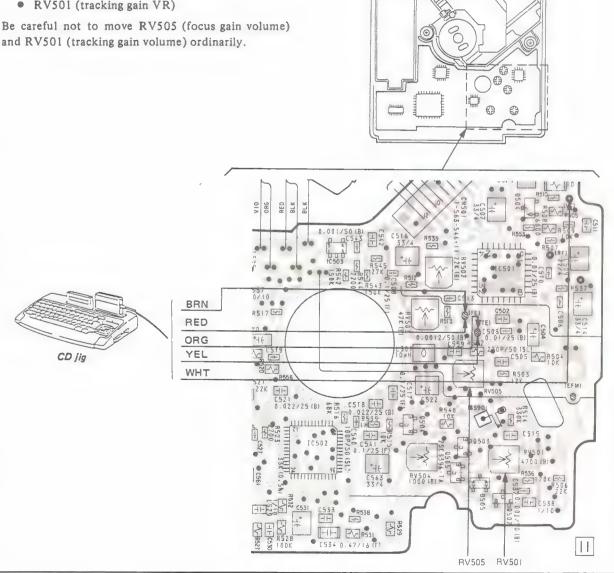
On this set, it is very difficult to simplify this adjustment. For those sets on which symptoms such as "occasional skipping" are hard to discover, or it is hard to tell if the set has been repaired, use the CD jig and perform this adjustment. Refer to the diagram below for connection of the CD jig. The adjustment procedure is described in the separate CD Jig Instruction Manual.

CD Jig Connecting Procedure:

Remove the solder jumpers at the TE and FE locations and connect the DC jig.

(Connect the points on both TE and FE located on the side of IC501 to the output to the CD jig, and points located on the side of volumes to the input from the CD jig.)

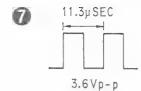
- servo board -

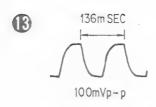


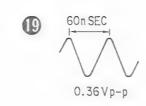
SECTION 4 DIAGRAMS

4-1. WAVEFORMS

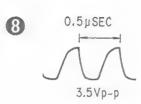


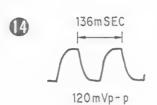


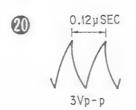


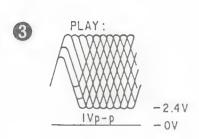


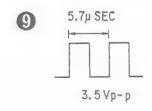


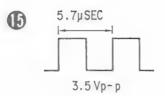


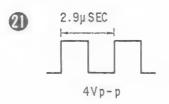


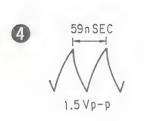


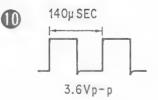


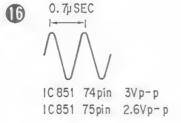


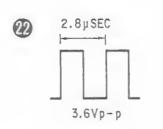


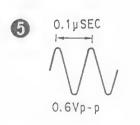


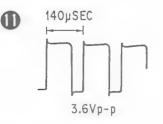


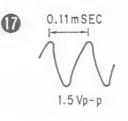


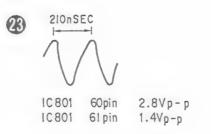


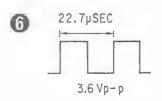


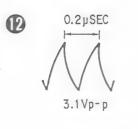




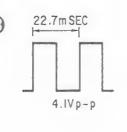


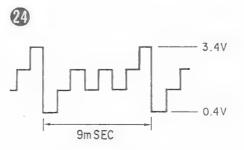


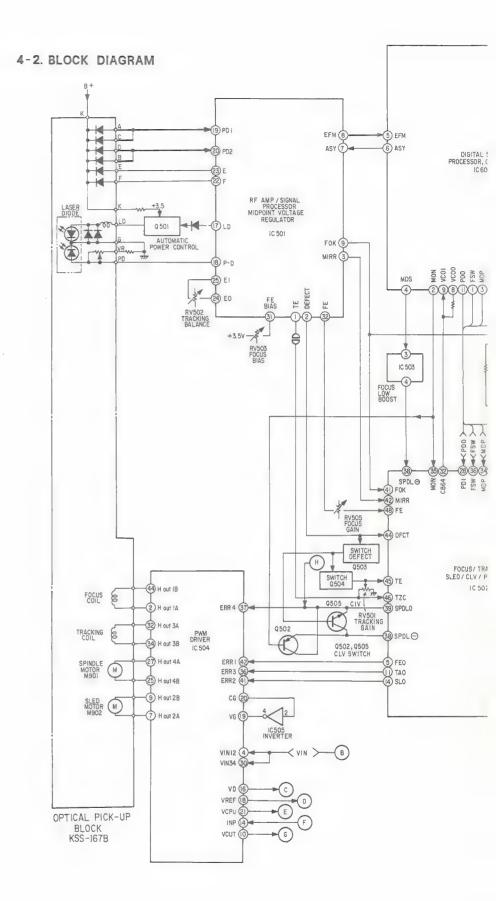


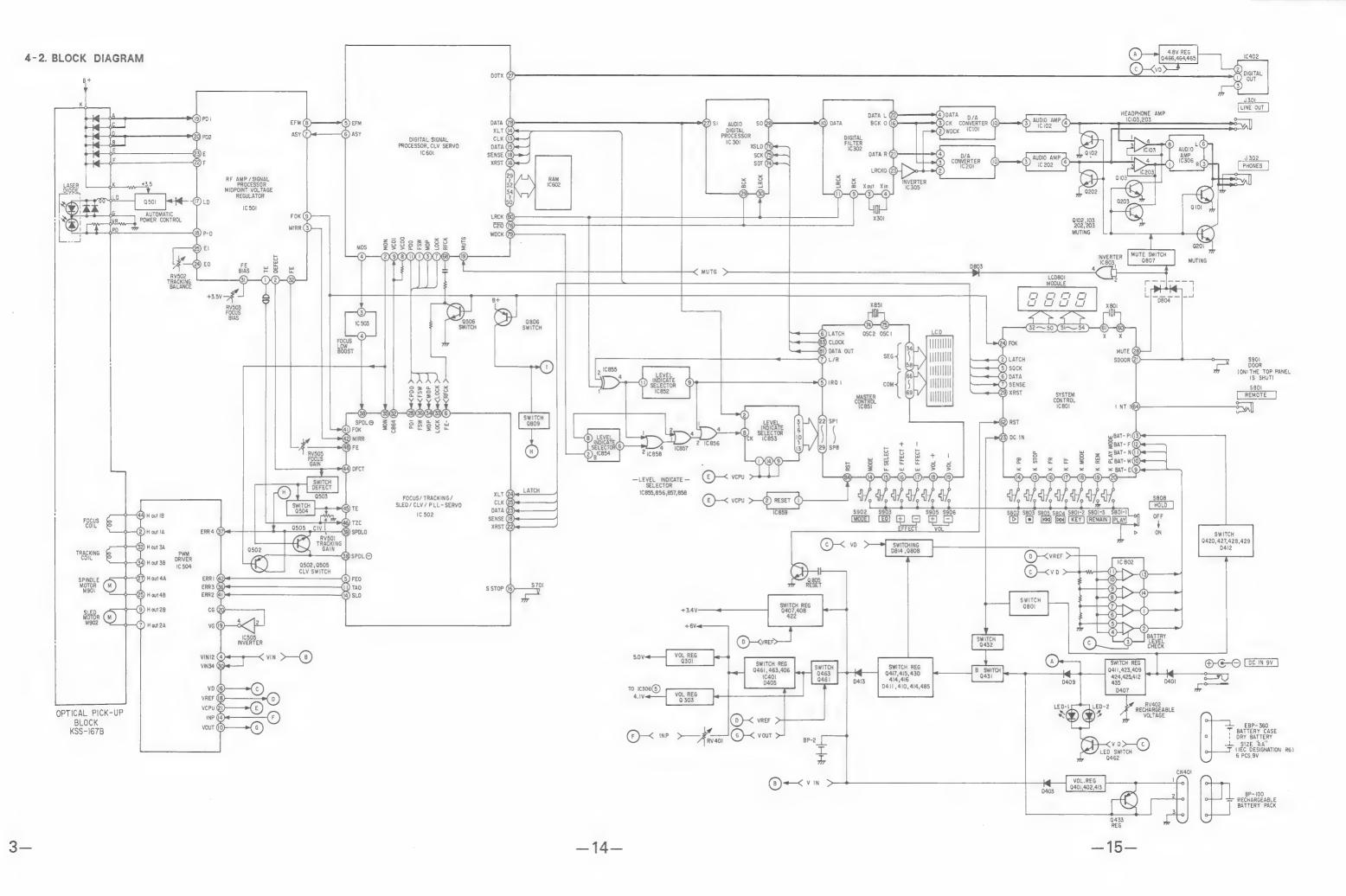


-12-









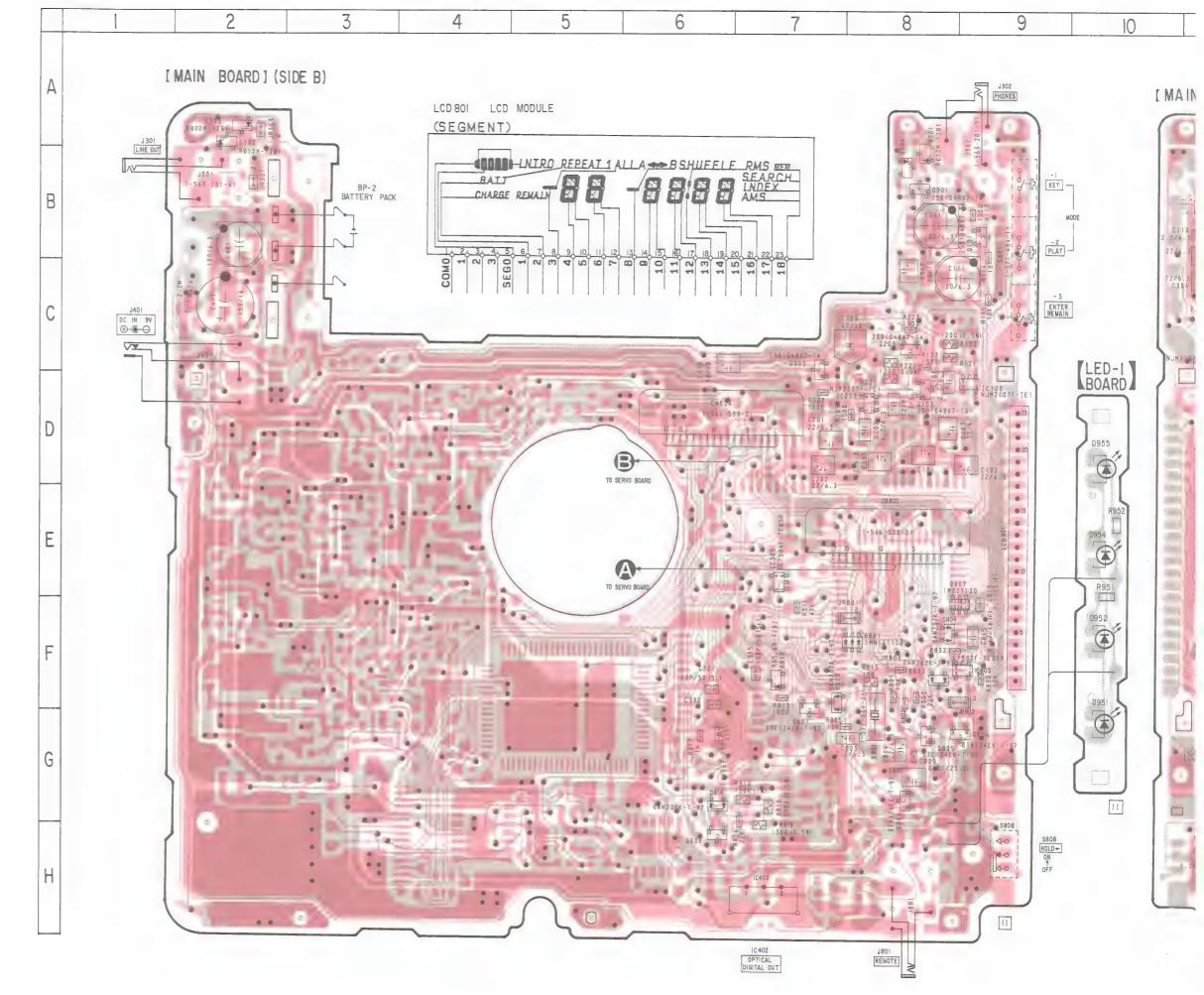
4-3. PRINTED WIRING BOARD - MAIN SECTION - See page 30 for Semiconductor Lead Layouts.

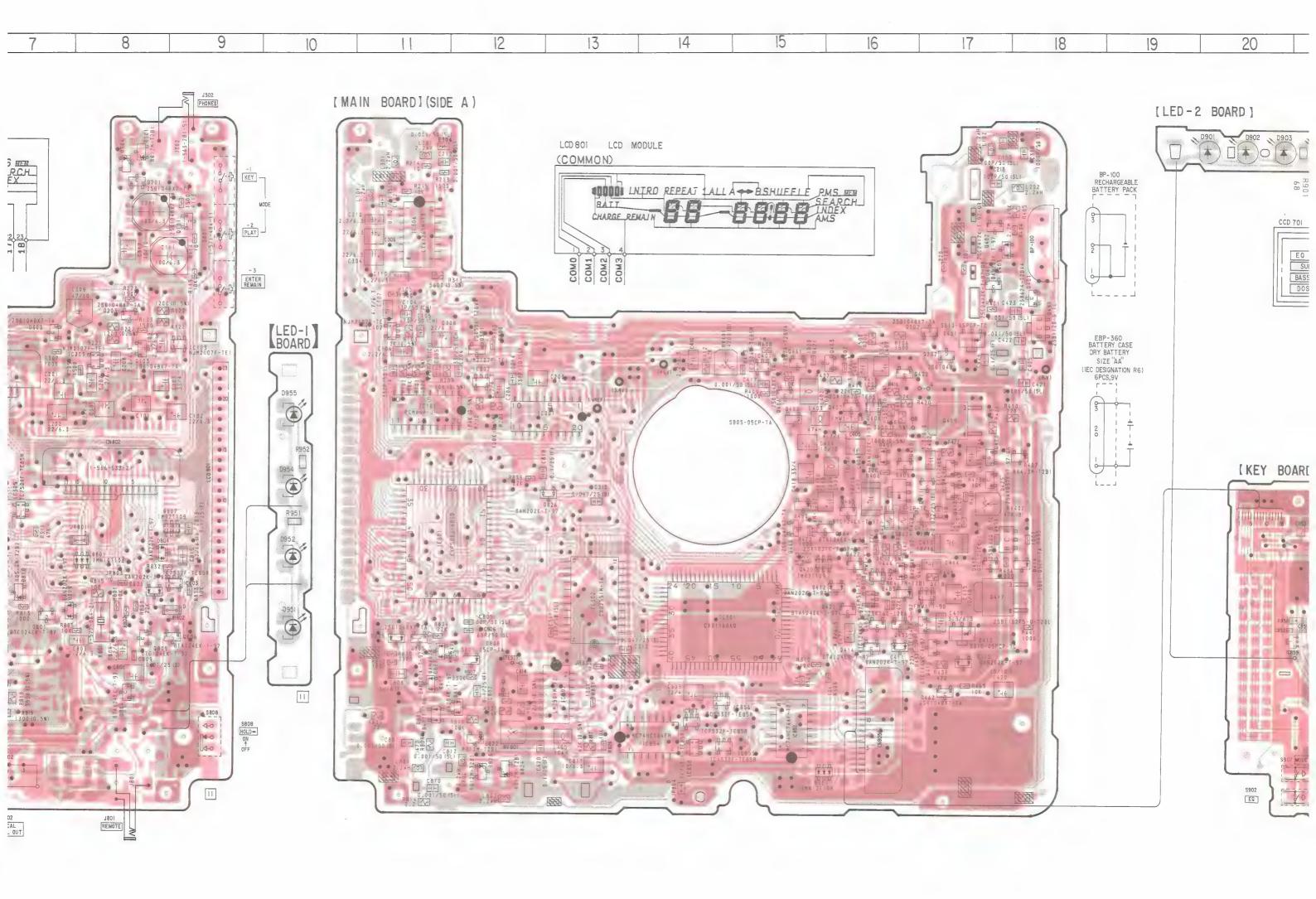
Semiconductor Lead Layouts

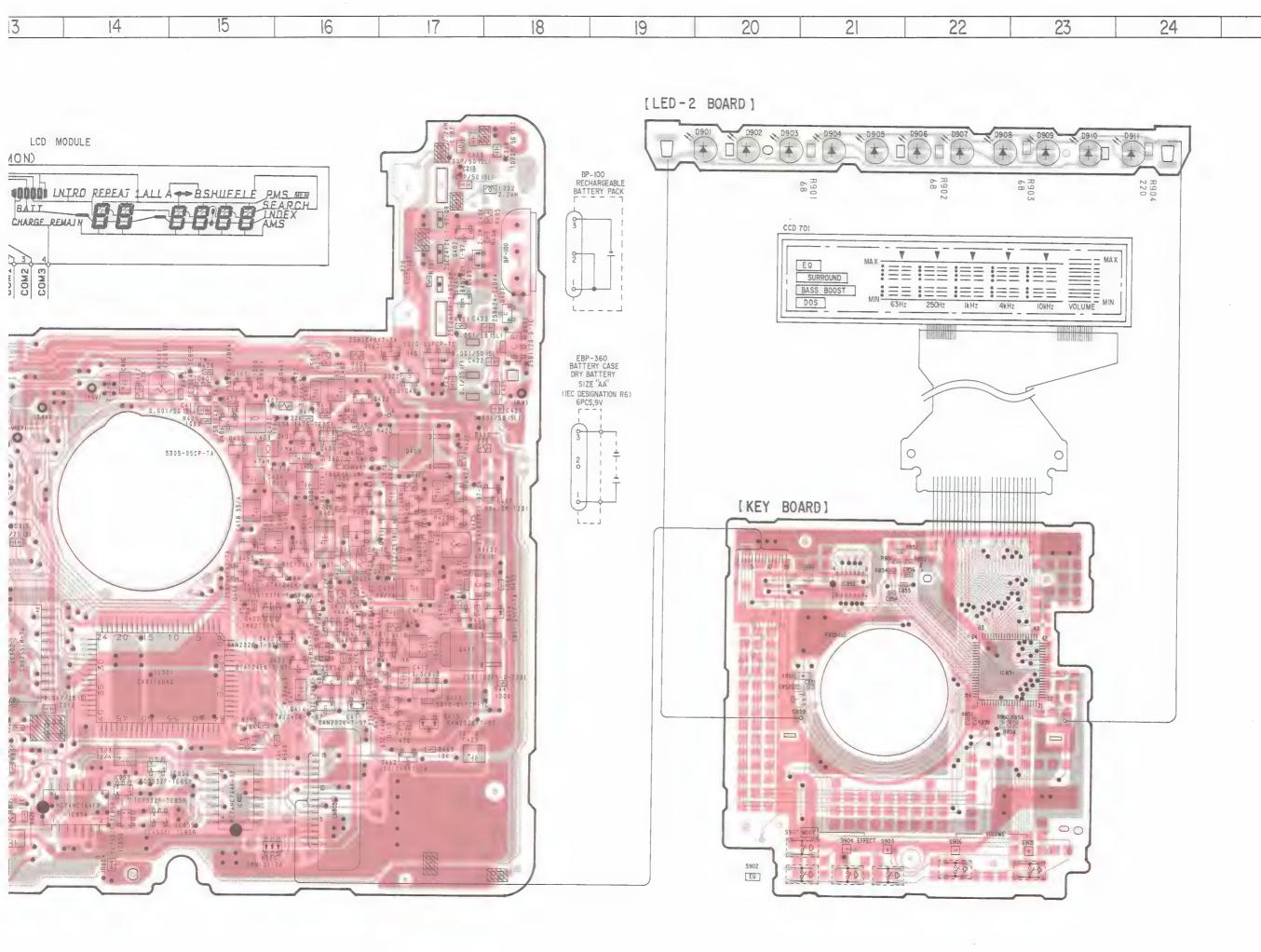
Ref. No.	Location	Ref. No.	Location
D301 D302 D303 D304 D305 D401 D403 D405 D406 D407 D409 D410	A-8 A-2 B-8 H-17 B-17 D-15 E-16 E-16	IC802 IC803 IC851 IC852 IC853 IC854 IC855 IC856 IC857 IC858 IC859	G-13 F-9 F-22 H-15 F-21 H-14 H-15 G-14 H-14 G-21
D411 D412 D413 D414 D415 D485 D803 D806 D807 D808 D807 D808 D811 D813 D814 D813 D814 D816 D816 D817 D817 D817 D817 D817 D817 D817 D817	GF-G-118 GF-G-118 GF-G-118 GF-G-118 GF-G-119 GF-G-119 GF-G-119 GF-G-119 GF-G-119 GF-G-119 GF-G-119 GF-G-119 GF-G-G-G-G-G-G-G-G-G-G-G-G-G-G-G-G-G-G-	0101 0102 0103 0201 0202 0303 0402 0403 0407 0408 04407 04411 04415 04417 04417 04420 04427 04427 04427 04427 04431 04433 04431 04433 04431	B-917 B-17 B-18
IC101 IC102 IC103 IC201 IC202 IC203 IC301 IC302 IC305 IC306 IC401 IC402 IC801	D-11 C-11 D-9 D-12 D-12 D-8 F-14 F-13 E-7 B-11 C-15 H-7 F-11	Q461 Q462 Q463 Q464 Q465 Q466 Q801 Q804 Q805 Q806 Q807 Q808 Q809	G-15 G-17 D-16 E-16 E-17 G-17 G-9 E-9 E-9 G-8

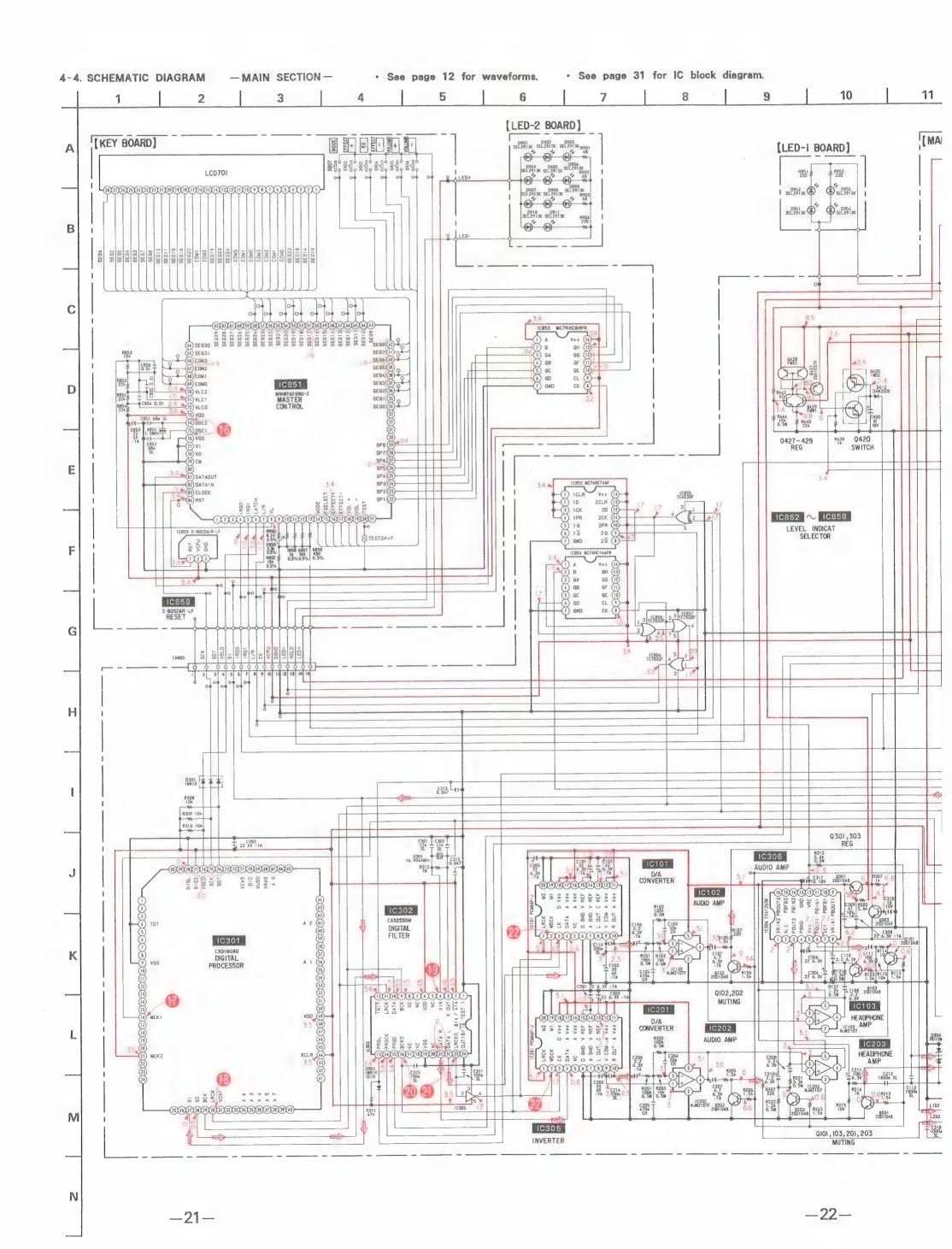
Note:

- : Through hole.
- Pattern on the side which is seen.
- Pattern of the rear side.









Note: All capacitors are in μF unless otherwise noted. pF: $\mu \mu F$ 50WV or less are not indicated except for electrolytics

and tantalums. All resistors are in Ω and $\frac{1}{4}W$ or less unless otherwise specified.

%: indicates tolerance.

Note: The components identified by mark A or dotted line with mark A are critical for safety.

Replace only with part number specified.

- = : B+ Line
- : adjustment for repair.

 Power voltage is dc 9V and fed with regulated dc power supply from external power voltage jack.

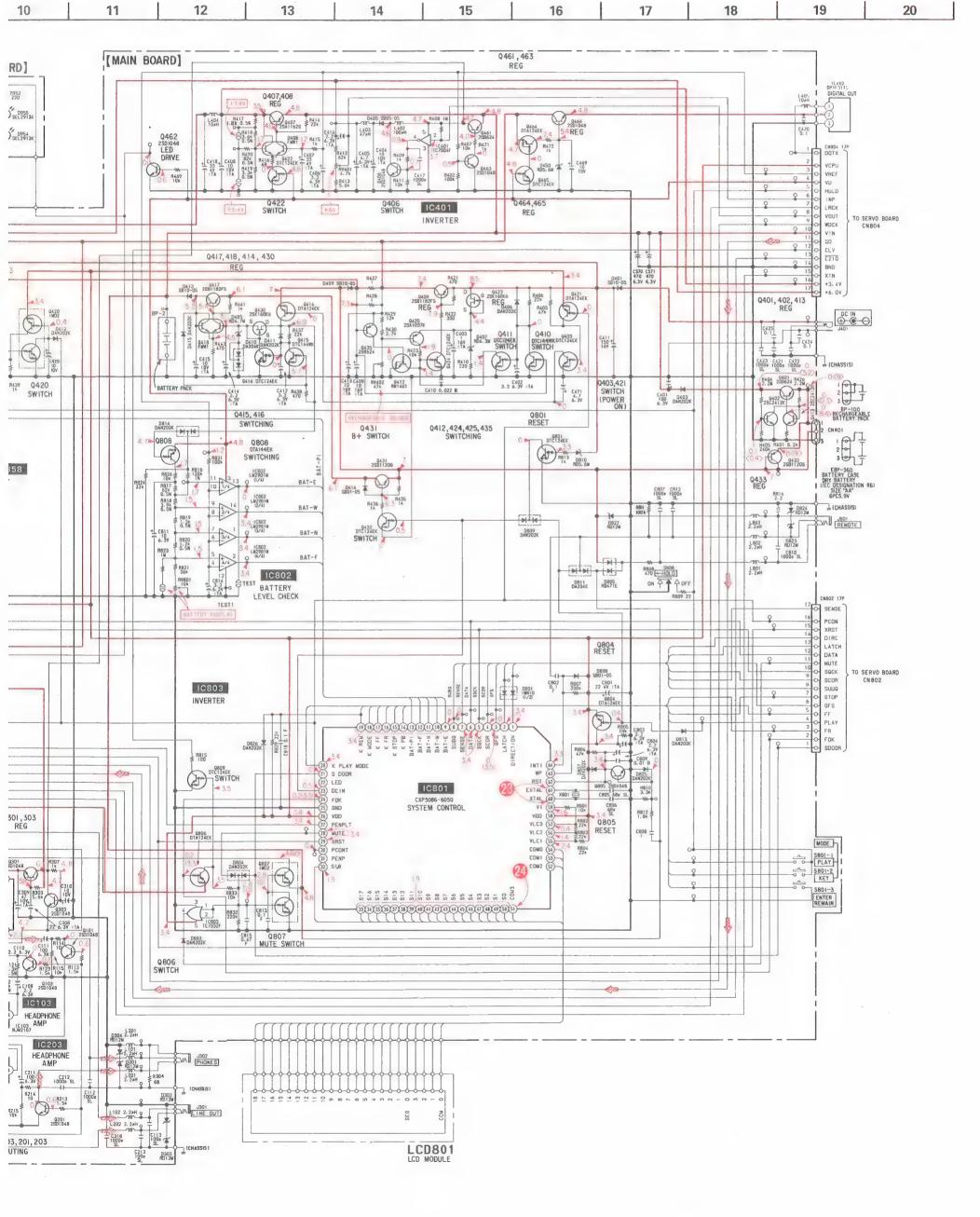
no mark: stop

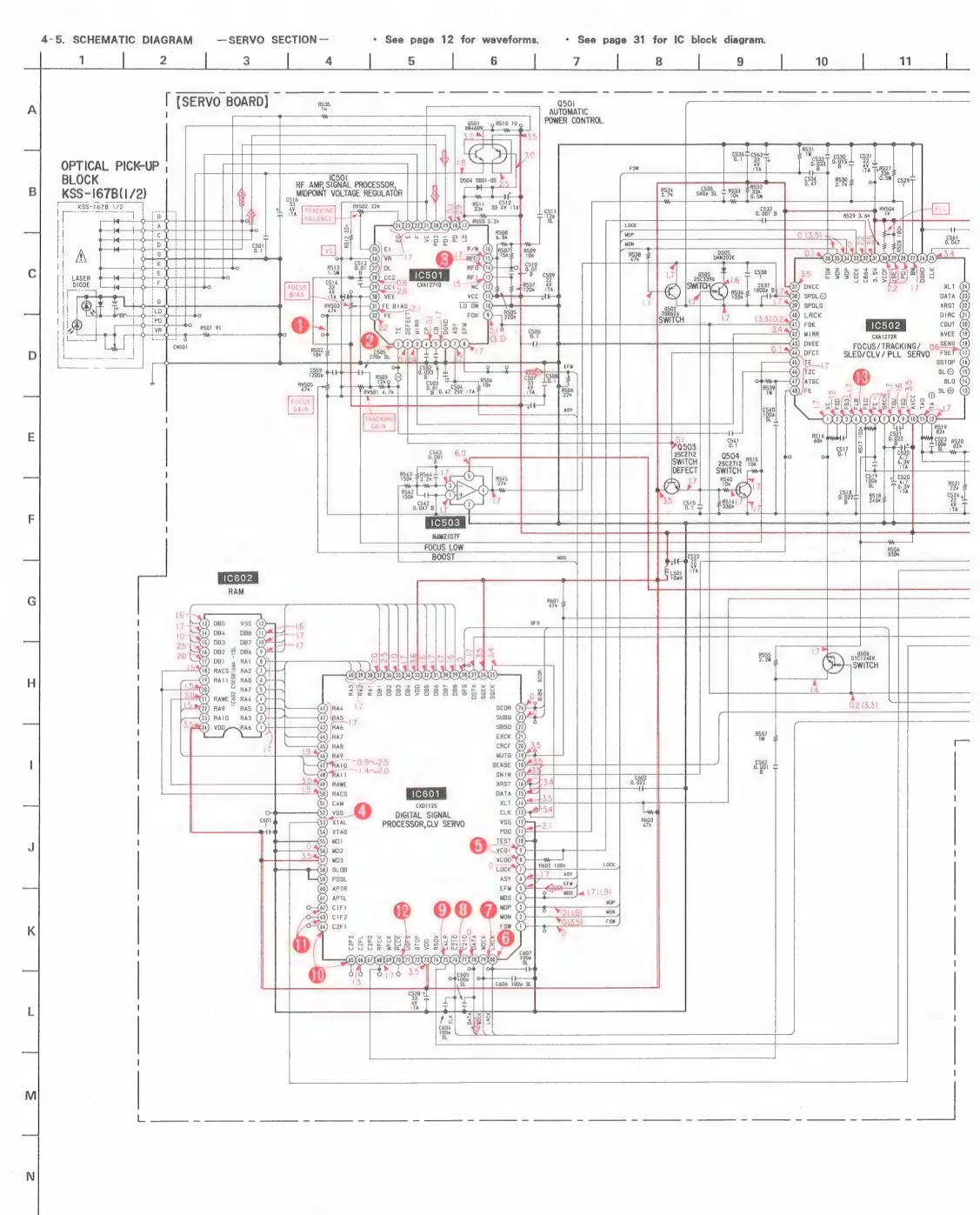
>: values when a power supply of 9V dc supplied from the battery terminal.

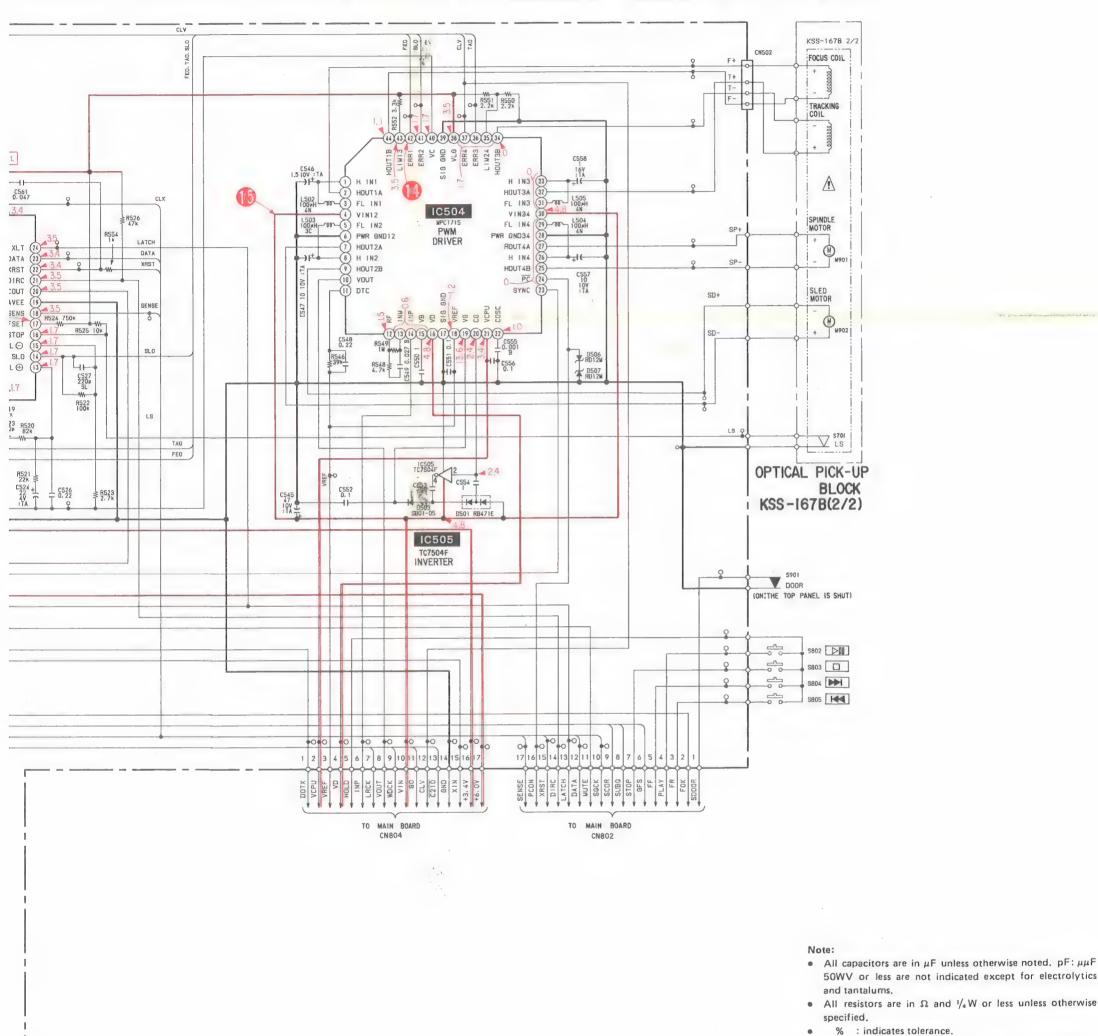
Voltages are taken with a VOM (Input impedance 10M Ω),

Circled numbers refer to waveforms.

 Signal path. CD CD







18

19

17 ·

20

- 50WV or less are not indicated except for electrolytics
- %: indicates tolerance.

Note: The components identified by mark A or dotted line with mark A are critical for safety.

Replace only with part number specified.

- === ; B+ Line
- adjustment for repair.
- Power voltage is dc 9V and fed with regulated dc power supply from external power voltage jack.

no mark: stop

- (): play
- >: values when a power supply of 9V dc supplied from the battery terminal.
- Voltages are taken with a VOM (Input impedance $10M\Omega$),
- Circled numbers refer to waveforms.
- Signal path.

12

13

14

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16

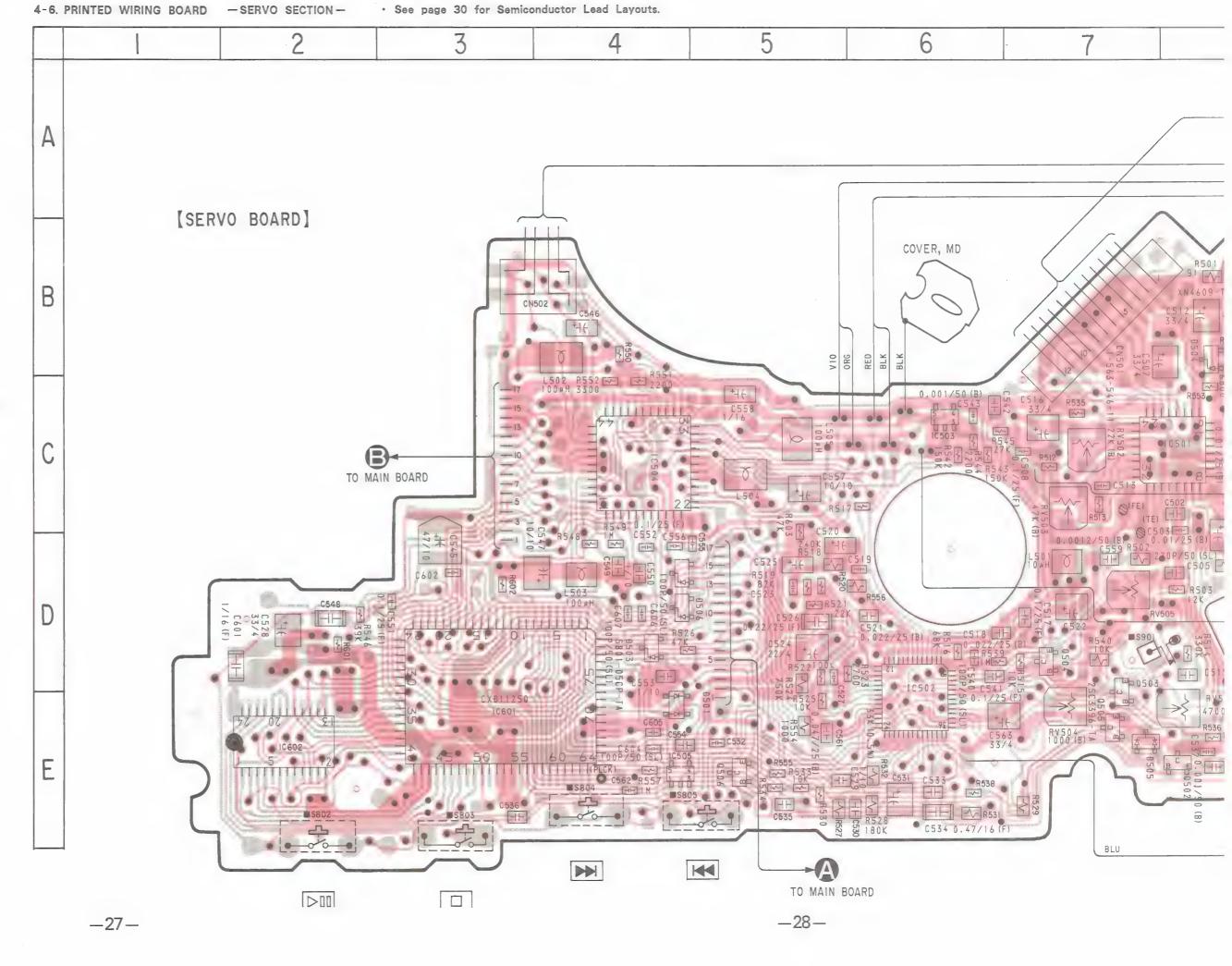
Ref. No.	Location
D501 D503 D504 D505 D506 D507	E-4 D-4 B-8 E-7 D-4
IC501	C-8
IC502	D-6
IC503	C-6
IC504	C-4
IC505	E-4
IC601	D-3
IC602	E-2
Q501	B-8
Q502	E-8
Q503	D-7
Q504	D-7
Q505	E-7
Q506	E-5

Note:

Through hole.

• : Pattern on the side which is seen.

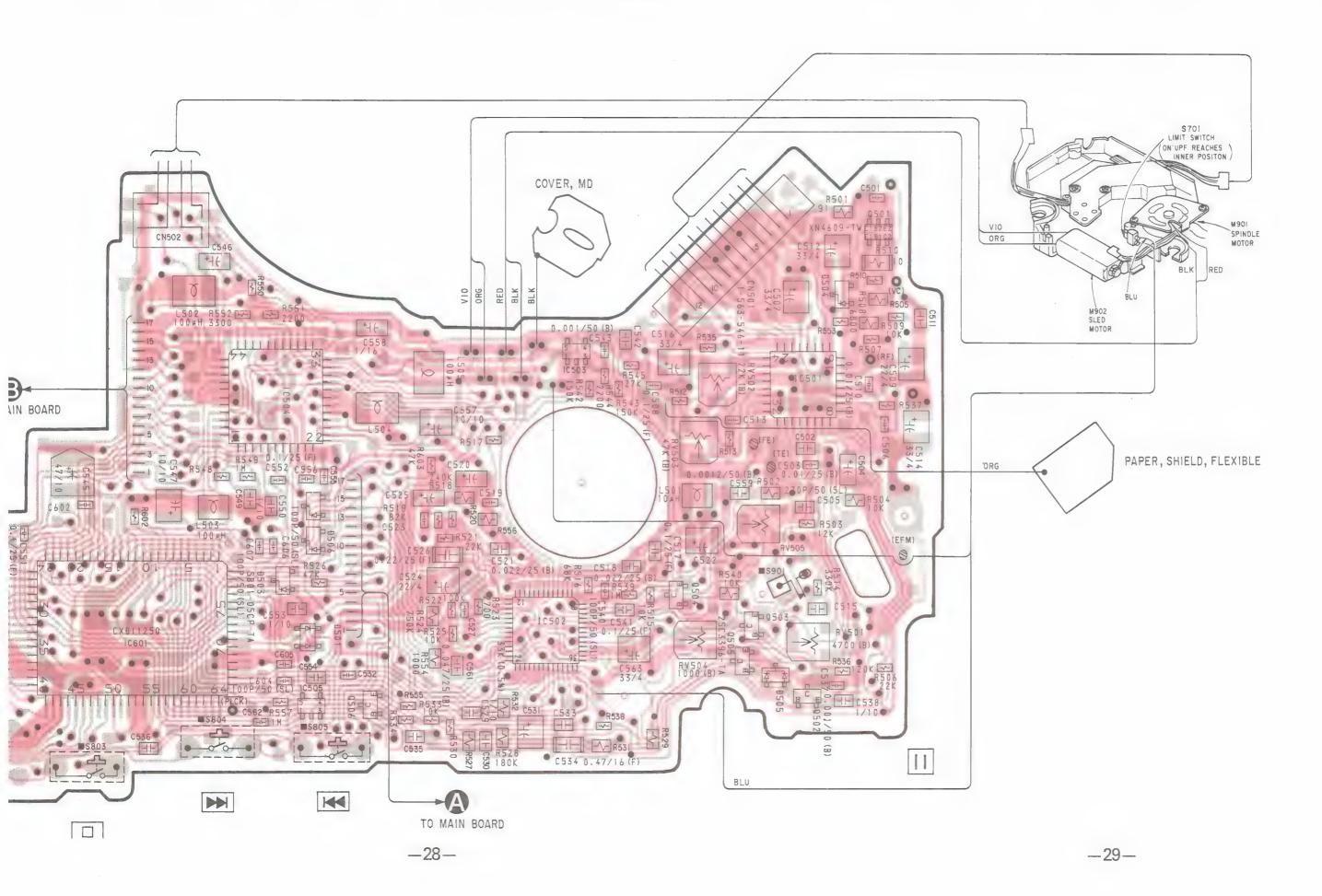
• : Pattern of the rear side.



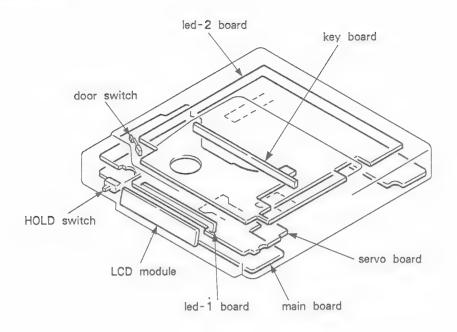
· See page 30 for Semiconductor Lead Layouts.

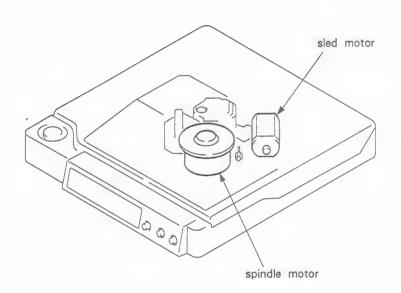
D-555/Z555

3 4 5 6 7 8 9 10 11



· CIRCUIT BOARD LOCATION





Semiconductor Lead Layouts



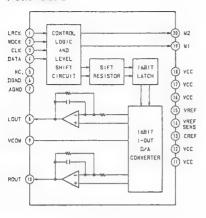
SEL2913K-D



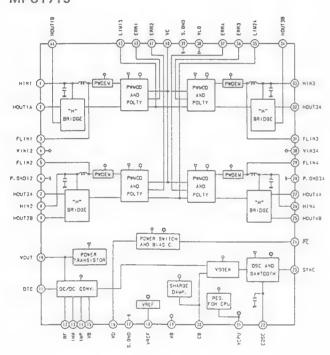


4-7. IC BLOCK DIAGRAM

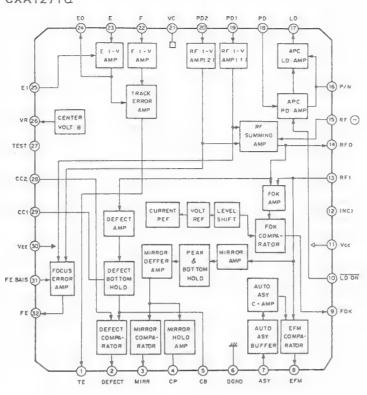




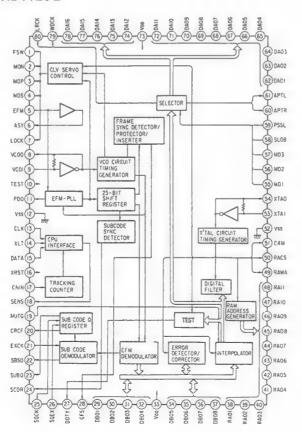
IC504 MPC1715



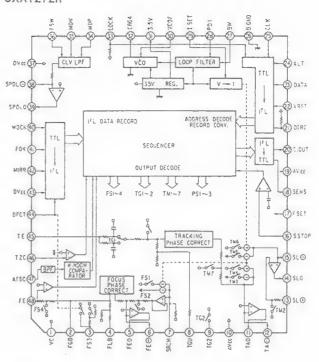
IC501 CXA1271Q



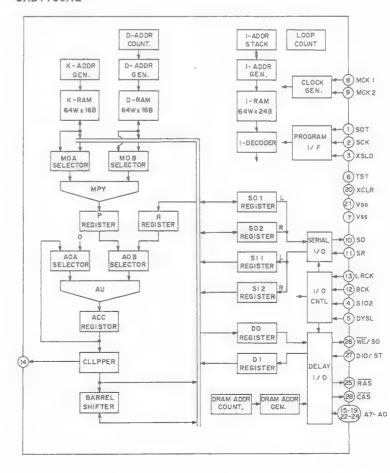
IC601 CXD1125Q



IC502 CXA1272R



1C301 CXD1160AQ



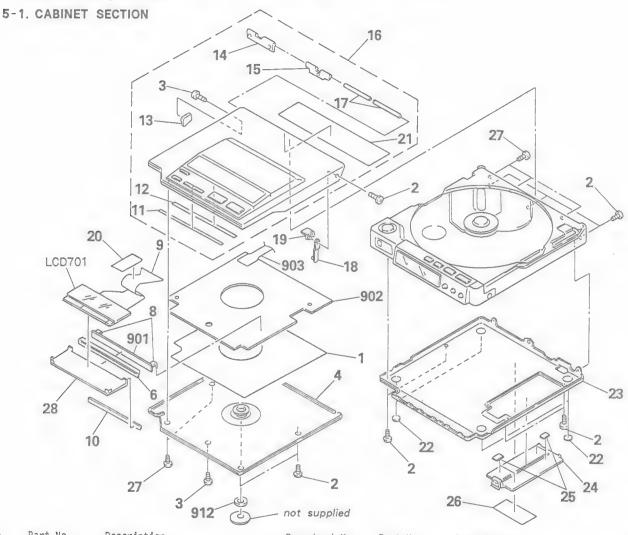
SECTION 5 EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:

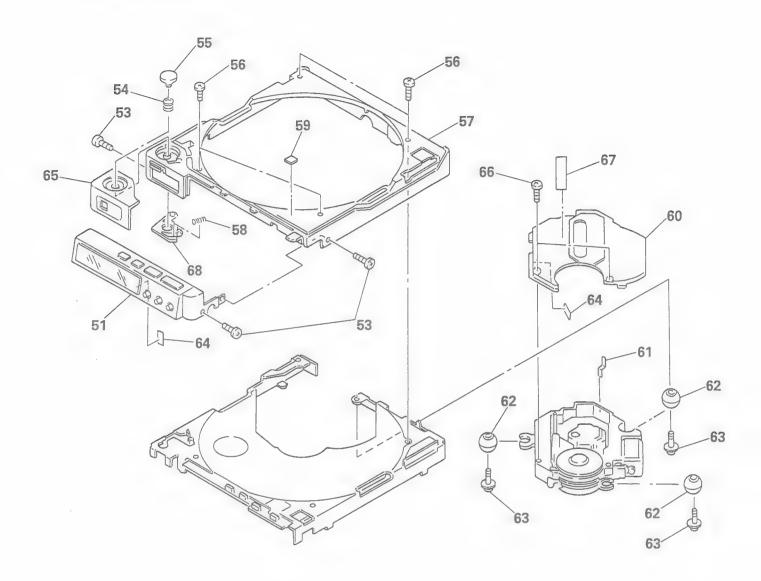
(RED) ...KNOB, BALANCE (WHITE)
↑
↑
Cabinet's Color Parts Color

The components identified by mark \(\frac{\hat{\Lambda}}{\text{\text{or dotted line with mark}} \)
Are critical for safety.
Replace only with part number specified.

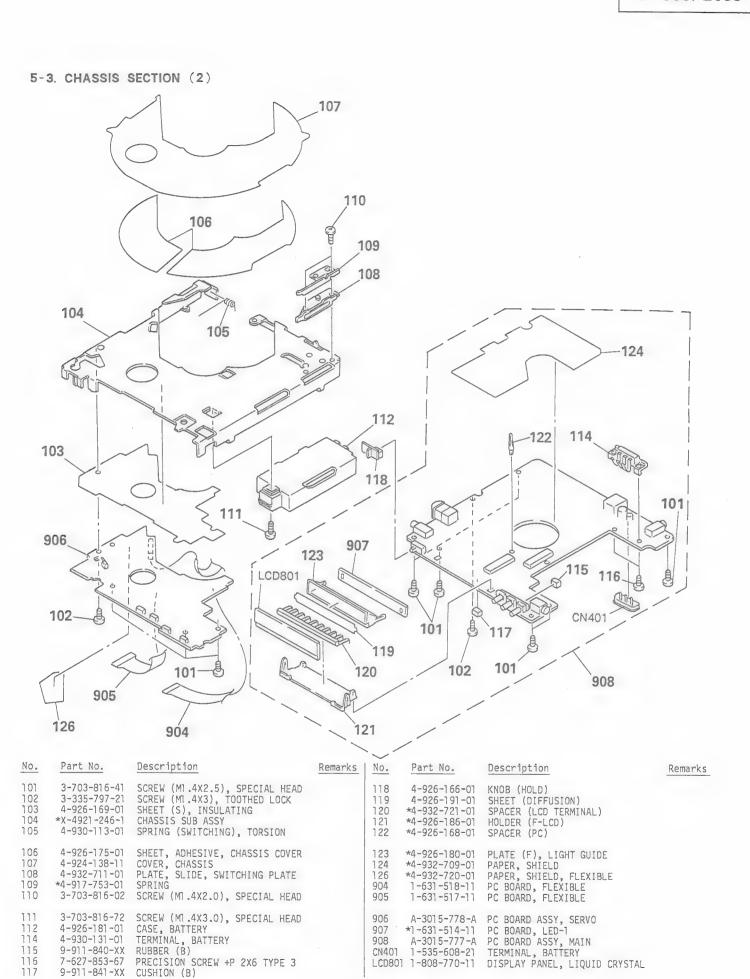


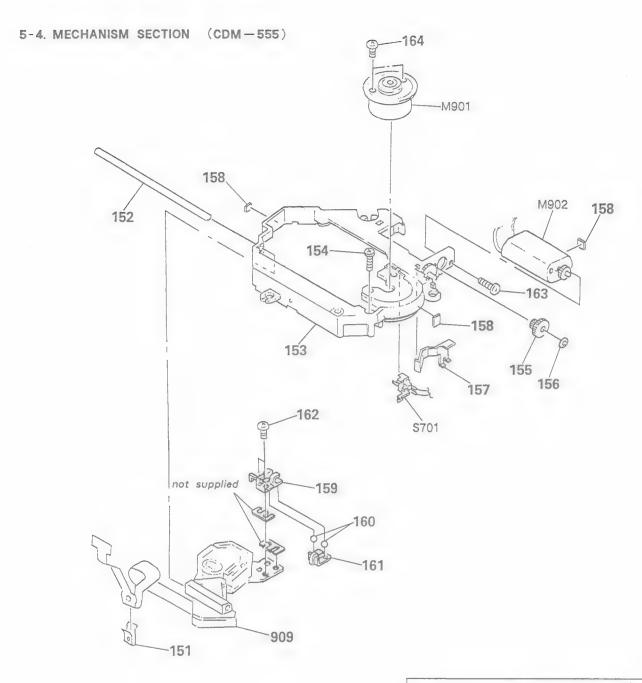
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1 2 3 4	4-924-127-01 3-703-816-72 3-895-823-41 A-3043-251-A	SCREW (MT.4X3.0), SPECIAL HEAD		19 20 21 22	X-4917-704-1 *4-926-115-01 *4-932-714-01 4-912-641-01	BRACKET ASSY, SWITCHING PLATE CUSHION (P) SHEET (UPPER LID), INSULATING FOOT, RUBBER	
6 8 9	*4-926-163-01 4-926-167-01 *4-932-718-01 *4-932-707-01	TERMINAL BOARD (LED)		23 24 25	X-4921-243-1 4-926-185-01 3-831-441-XX	PANEL ASSY, BOTTOM LID, BATTERY CASE CUSHION	
11	4-926-172-01 4-932-794-01	SHEET (M), ADHESIVE		26	*4-926-188-01 *4-932-712-01	(US)LABEL, MODEL NUM (AEP,FRENCH,UK,E)LABEL, MODEL	BER (U) NUMBER
13 14	4-920-272-01 4-924-143-01	RETAINER, SPRING, SWITCHING HINGE (RIGHT)		27 28	X-4921-249-1	SCREW (MT.4X2.0), SPECIAL HEAD PLATE (T) ASSY, LIGHT GUIDE	
15 16	4-924-142-01 A-3043-250-A	HINGE (LEFT) PLATE ASSY, TRANSPARENT			*1-631-515-11 *1-631-516-12	PC BOARD, LED-2 PC BOARD, KEY	
17 18	4-924-144-01 X-4921-216-1	SHAFT, FULCRUM PLATE (B) ASSY, SWITCHING		903 912	*1-632-626-11 1-452-473-11	PC BOARD, KEY FLEXIBLE MAGNET	
			1	LCD70	1 1-808-771-11	DISPLAY PANEL, LIQUID CRYSTAL	

5-2. CHASSIS SECTION (1)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51 53 54 55	3-703-816-72 4-917-727 - 01	PANEL (M) ASSY, FRONT SCREW (M1.4X3.0), SPECIAL HEAD SPRING, COMPRESSION BUTTON, OPEN		60 61 62 63	4-926-141-01 3-831-441-XX X-4917-723-1 4-920-209-01	COVER, MD CUSHION DAMPER SCREW (INSULATOR), STEP	
56 57 58 59	4-926-177-01 4-924-140-01	SCREW (M1.4X5.0), SPECIAL HEAD CABINET SPRING, COMPRESSION CUSHION (UPPER LID)		64 65 66 67 68	3-895-823-41	CUSHION PANEL (AL) ASSY, FRONT SCREW (B1.4X4), TAPPING LABEL, CAUTION, LENS LEVER, LOCK	





Note: The components identified by mark A or dotted line with mark A are critical for safety. Replace only with part number specified.

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
151 152 153 154 155	4-917-611-01 X-4917-609-1	CHASSIS ASSY, MD SCREW (1.7X8), SPECIAL		160 161 162 163 164	7-627-553-38	STEEL, BOUL 1.5MM SPRING SCREW, PRECISION +P 1.7X3 SCREW, PRECISION +P 2X3 SCREW, PRECISION +P 1.7X2.5	
156 157 158 159	4-921-290-01	WASHER, STOPPER SPRING CUSHION, 15X5X0.3 RACK (A)		909 M901 M902 S701	A-3133-384-A A-3133-334-A	DEVICE, OPTICAL KSS-167B (RP) MOTOR ASSY, CLV MOTOR SUB ASSY, FEED SWITCH (LIMIT)	

SECTION 6 **ELECTRICAL PARTS LIST**

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS: MF: μF, PF: μμF.

RESISTORS

- All resistors are in ohms.F: nonflammable

COILS

MMH: mH, UH: μH

SEMICONDUCTORS

In each case, U: μ, for example: UA...: μΑ..., UPA...: μPA..., UPC...: μPD...: μPD...

The components identified by mark \(\underbrace{\Lambda} \) or dotted line with mark \(\underbrace{\Lambda} \) are critical for safety.

Replace only with part number

Ref.No. Part No.	Description			Ref.No.	Part No.	Description		
902 *1-631-516-12	PC BOARD, LED-2 PC BOARD, KEY PC BOARD, KEY FLEXIBLE			C312 C313 C315	1-163-809-11 1-163-809-11 1-163-117-00	CERAMIC CHIP 0.047MF CERAMIC CHIP 0.047MF CERAMIC CHIP 100PF	10% 10% 5%	25V 25V 50V
904 1-631-518-11 905 1-631-517-11 906 A-3015-778-A				C317 C318 C401	1-135-174-11 1-163-141-00 1-126-206-11	TANTAL. CHIP 10MF CERAMIC CHIP 0.001MF ELECT CHIP 100MF	20% 5% 20%	10V 50V 6.3V
907 *1-631-514-11 908 A-3015-777-A 909 <u>A</u> 8-848-141-11 912 1-452-473-11	PC BOARD ASSY, MAIN	(RP)		C402 C403 C404	1-135-150-21 1-135-091-00 1-135-174-11	TANTAL. CHIP 3.3MF TANTAL. CHIP 1MF TANTAL. CHIP 10MF	20% 20% 20%	6.3V 16V 10V
C101 1-135-144-11 C102 11-135-144-11 C103 1-135-162-21		20% 20% 20%	6.3V 6.3V 4V	C405 C406 C407	1-135-130-11 1-135-150-21 1-135-162-21	TANTAL. CHIP 4.7MF TANTAL. CHIP 3.3MF TANTAL. CHIP 33MF	20% 20% 20%	6.3V 6.3V 4V
C104 1-163-105-00 C105 1-163-133-00 C106 1-135-149-21		5% 5% 20%	50V 50V 6.3V		1-135-174-11 11-135-159-21 1-163~037-11	TANTAL. CHIP 10MF TANTAL. CHIP 10MF CERAMIC CHIP 0.022MF	20% 20% 10%	10V 16V 25V
C107 1-135-130-11 C108 1-135-149-21 C110 1-135-149-21	TANTAL. CHIP 4.7MF TANTAL. CHIP 2.2MF TANTAL. CHIP 2.2MF	20% 20% 20%	6.3V 6.3V 6.3V	C411 C412 C413	1-126-357-11 1-135-150-21 1-135-159-21	ELECT 150MF TANTAL. CHIP 3.3MF TANTAL. CHIP 10MF	20% 20% 20%	16V 6.3V 16V
C111 1-126-206-11 C112 1-163-141-00 C113 1-163-117-00	ELECT CHIP 100MF CERAMIC CHIP 0.001MF CERAMIC CHIP 100PF	20% 5% 5%	6.3V 50V 50V	C414 C415 C416	1-135-149-21 1-135-174-11 1-135-149-21	TANTAL. CHIP 2.2MF TANTAL. CHIP 10MF TANTAL. CHIP 2.2MF	20% 20% 20%	6.3V 10V 6.3V
C114 1-163-129-00 C201 1-135-144-11 C202 1-135-144-11	CERAMIC CHIP 330PF TANTAL. CHIP 22MF TANTAL. CHIP 22MF	5% 20% 20%	50V 6.3V 6.3V		1-163-141-00 1-135-162-21 1-135-174-11	CERAMIC CHIP 0.001MF TANTAL. CHIP 33MF TANTAL. CHIP 10MF	5% 20% 20%	50V 4V 10V
C203 1-135-162-21 C204 1-163-105-00 C205 1-163-133-00	TANTAL. CHIP 33MF CERAMIC CHIP 33PF CERAMIC CHIP 470PF	20% 5% 5%	4V 50V 50V	C421 C422 C423	1-163-141-00 1-163-141-00 1-163-141-00	CERAMIC CHIP 0.001MF CERAMIC CHIP 0.001MF CERAMIC CHIP 0.001MF	5% 5% 5%	50V 50V 50V
C206 1-135-149-21 C207 1-135-130-11 C208 1-135-149-21	TANTAL. CHIP 2.2MF TANTAL. CHIP 4.7MF TANTAL. CHIP 2.2MF	20% 20% 20%	6.3V 6.3V 6.3V	C424 C425 C469	1-163-038-00 1-163-038-00 1-135-174-11	CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF TANTAL. CHIP 10MF	20%	25V 25V 10V
C210 . 1-135-149-21 C211	TANTAL. CHIP 2.2MF ELECT CHIP 100MF CERAMIC CHIP 0.001MF	20% 20% 5%	6.3V 6.3V 50V		1-163-038-00 1-135-181-21 1-164-156-11	CERAMIC CHIP 0.1MF TANTAL. CHIP 4.7MF CERAMIC CHIP 0.1MF	20%	25V 6.3V 25V
C213 1-163-117-00 C214 1-163-129-00 C301 1-163-095-00	CERAMIC CHIP 330PF	5% 5%	50V 50V 50V	C502 C503 C504	1-163-989-11 1-162-970-11 1-135-145-11	CERAMIC CHIP 0.033MF CERAMIC CHIP 0.01MF TANTAL. CHIP 0.47MF	10% 10% 20%	25V 25V 25V
C302 1-163-095-00 C303 1-135-157-21 C304 1-135-144-11	TANTAL. CHIP 22MF	5% 20% 20%	50V 4V 6.3V	C505 C506 C507	1-163-127-00 1-164-156-11 1-135-162-21	CERAMIC CHIP 270PF CERAMIC CHIP 0.1MF TANTAL. CHIP 33MF	5% 20%	50V 25V 4V
C305 1-135-144-11 C306 1-135-144-11 C308 1-135-144-11	TANTAL. CHIP 22MF	20% 20% 20%	6.3V 6.3V 6.3V			CERAMIC CHIP 0.1MF TANTAL. CHIP 22MF CERAMIC CHIP 0.01MF	20%	25V 4V 25V
C309 1-135-206-11 C310 1-135-174-11 C311 1-162-953-11	TANTAL. CHIP 47MF TANTAL. CHIP 10MF	20% 20% 5%	1 OV 1 OV 5 OV	C511 C512 C513	1-135-162-21	CERAMIC CHIP 12PF TANTAL. CHIP 33MF CERAMIC CHIP 0.01MF	5% 20% 10%	50V 4V 25V

Ref.No.	Part No.	Description			Ref.No.	Part No.	Description		
C51 4 C51 5 C51 6	1-135-162-21 1-163-038-00 1-135-162-21	TANTAL. CHIP 33MF CERAMIC CHIP 0.1MF TANTAL. CHIP 33MF	20%	4V 25V 4V	C803 C804 C805	1-135-149-21 1-135-149-21 1-162-951-11	TANTAL. CHIP 2.2MF TANTAL. CHIP 2.2MF CERAMIC CHIP 68PF	20% 20% 5%	6.3V 6.3V 50V
C517 C518 C519	1-163-038-00 1-163-037-11	CERAMIC CHIP 0.1MF CERAMIC CHIP 0.022MF CERAMIC CHIP 100PF	10%	25V 25V 50V	C806 C807 C808		CERAMIC CHIP 68PF CERAMIC CHIP 0.001MF CERAMIC CHIP 1MF	5% 5%	50V 50V 16V
C520 C521 C522	1-163-037-11	TANTAL. CHIP 4.7MF CERAMIC CHIP 0.022MF TANTAL. CHIP 22MF	20% 10% 20%	6.3V 25V 4V	C809 C810 C811		CERAMIC CHIP 0.01MF CERAMIC CHIP 0.001MF TANTAL. CHIP 10MF	10% 5% 20%	25V 50V 6.3V
C523 C524 C525	1-162-953-11 1-135-157-21 1-135-181-21	CERAMIC CHIP 100PF TANTAL. CHIP 22MF TANTAL. CHIP 4.7MF	5% 20% 20%	50V 4V 6.3V	C812 C813 C814	1-163-141-00 1-163-038-00 1-135-150-21	CERAMIC CHIP 0.001MF CERAMIC CHIP 0.1MF TANTAL. CHIP 3.3MF	5% 20%	50V 25V 6.3V
C526 C527 C528	1-162-957-11	CERAMIC CHIP 0.22MF CERAMIC CHIP 220PF TANTAL. CHIP 33MF	5% 20%	25V 50V 4V	C815 C818 C851	1-162-637-11 1-163-038-00 1-163-113-00	CERAMIC CHIP 0.47MF CERAMIC CHIP 0.1MF CERAMIC CHIP 68PF	5%	16V 25V 50V
C529 C530 C531		CERAMIC CHIP 1MF CERAMIC CHIP 0.015MF TANTAL. CHIP 22MF	10%	1 OV 5 OV 4 V	C852 C853 C854	1-163-113-00	CERAMIC CHIP 68PF TANTAL. CHIP 22MF CERAMIC CHIP 0.01MF	5% 20% 10%	50V 4V 50V
C532 C533 C534	1-162-964-11 1-163-989-11 1-162-637-11	CERAMIC CHIP 0.001MF CERAMIC CHIP 0.033MF CERAMIC CHIP 0.47MF	10% 10%	50V 25V 16V	C855 C856	1-164-232-11 1-164-232-11	CERAMIC CHIP 0.01MF CERAMIC CHIP 0.01MF	10%	50V 50V
C535 C536 C537	1-163-135-00 1-163-038-00	CERAMIC CHIP 560PF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.001MF	5% 10%	50V 25V 50V	CN501	1-563-546-11	TERMINAL, BATTERY HOUSING, CONNECTOR 12P SOCKET, CONNECTOR 4P		
C538 C540 C541	1-164-234-11 1-162-953-11	CERAMIC CHIP 1MF CERAMIC CHIP 100PF CERAMIC CHIP 0.1MF	5%	10V 50V 25V	CN804	*1-566-533-11 *1-566-533-11 1-566-531-11	CONNECTOR, FPC (ZIF) 17P CONNECTOR, FPC (ZIF) 17P CONNECTOR, FPC (ZIF) 15P		
C542 C543 C545	1-163-809-11 1-162-964-11	CERAMIC CHIP 0.047MF CERAMIC CHIP 0.001MF TANTAL. CHIP 47MF	10% 10% 20%	25V 50V 10V	D301 D302 D303	8-719-106-70	DIODE RD12M2B1 DIODE RD12M2B1 DIODE RD12M2B1		
C546 C547 C548		TANTAL. CHIP 1.5MF TANTAL. CHIP 10MF CERAMIC CHIP 0.22MF	10%	1 OV 1 OV 25 V	D304 D305 D401	8-719-951-22	DIODE RD12M2B1 DIODE IMN10T108 DIODE RB110C-T100		
C549 C550 C551	1-163-986-00 1-164-234-11	CERAMIC CHIP 0.027MF CERAMIC CHIP 1MF CERAMIC CHIP 0.1MF	10%	25V 10V 25V	D403 D405 D406	8-719-975-42	DIODE MA152WK DIODE RB411D-T97 DIODE MA152WK		
C552 C553	1-164-156-11 1-164-234-11	CERAMIC CHIP 0.1MF CERAMIC CHIP 1MF CERAMIC CHIP 1MF		25V 10V 10V	D407 D409 D410		DIODE RD4.3MB1 DIODE RB110C-T100 DIODE 1SS226		
C555 C556 C557		CERAMIC CHIP 0.001MF CERAMIC CHIP 0.1MF TANTAL. CHIP 10MF	10%	50V 25V 10V	D411 D412 D413	8-719-400-18	DIODE MA152WK DIODE MA152WK DIODE RB110C-T100		
C558 C559 C561		TANTAL. CHIP 1MF CERAMIC CHIP 0.0012MF CERAMIC CHIP 0.047MF	20% 10% 10%	16V 50V 25V	D414 D415 D450	8-719-400-18	DIODE SB01-05CP DIODE MA152WK DIODE RD5.6MB2		
C562 C563 C570	1-162-964-11 1-135-162-21 1-126-114-11	CERAMIC CHIP 0.001MF TANTAL. CHIP 33MF ELECT 470MF	10% 20% 20%	50V 4V 6.3V	D485 D501 D503	8-719-975-46	DIODE RD4.7MB1 DIODE RB471E DIODE SB01-05CP		
C571 C601 C602	1-126-114-11 1-162-638-11 1-162-995-11	ELECT 470MF CERAMIC CHIP 1MF CERAMIC CHIP 0.022MF	20%	6.3V 16V 50V	D504 D505 D506	8-719-400-18	DIODE SB01-05CP DIODE MA152WK DIODE RD12M-B1		
C604 C605 C606	1-162-953-11 1-162-953-11 1-162-953-11	CERAMIC CHIP 100PF CERAMIC CHIP 100PF CERAMIC CHIP 100PF	5% 5% 5%	50V 50V 50V	D507 D801 D803		DIODE RD12M-B1 DIODE IMN10T108 DIODE MA152WK		
C607 C801 C802	1-162-953-11 1-135-157-21 1-163-038-00	CERAMIC CHIP 100PF TANTAL. CHIP 22MF CERAMIC CHIP 0.1MF	5% 20%	50V 4V 25V	D804 D805 D807	8-719-975-46	DIODE MA152WK DIODE RB471E DIODE MA152WK		

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
D808 D809 D81 0	8-719-938-72 8-719-400-18 8-719-105-91	DIODE SBO1-05CP DIODE MA152WK DIODE RD5.6MB2	JR301 JR302 JR303	1-216-295-00 1-216-864-11 1-216-295-00	METAL GLAZE 0 5% 1/10W METAL GLAZE 0 5% 1/16W METAL GLAZE 0 5% 1/10W
D811 D813 D814	8-719-800-76 8-719-400-18 8-719-400-18	DIODE 1SS226 DIODE MA152WK DIODE MA152WK DIODE RD12MB1 DIODE RD12MB1 DIODE RD12MB1	JR801 JR802 JR803	1-216-296-00 1-216-296-00 1-216-864-11 1-216-295-00	METAL GLAZE 0 5% 1/8W METAL GLAZE 0 5% 1/8W METAL GLAZE 0 5% 1/16W METAL GLAZE 0 5% 1/10W
D822 D823 D824	8-719-106-70 8-719-106-70 8-719-106-70	DIODE RD12MB1 DIODE RD12MB1 DIODE RD12MB1	L101 L102	1-410-997-31	INDUCTOR CHIP 2.2UH INDUCTOR CHIP 2.2UH INDUCTOR CHIP 2.2UH INDUCTOR CHIP 2.2UH
D825 D826 D901	8-719-400-18 8-719-400-18 8-719-302-88	DIODE MA152WK DIODE MA152WK DIODE SEL2913K-D	L202 L301	1-410-997-31 1-410-997-31 1-412-039-51	INDUCTOR CHIP 2.2UH INDUCTOR CHIP 2.2UH INDUCTOR CHIP 100UH
D902 D903 D904	8-719-302-88 8-719-302-88 8-719-302-88	DIODE SEL2913K-D DIODE SEL2913K-D DIODE SEL2913K-D	L403 L404	1-412-031-11 1-412-029-11 1-412-029-11	INDUCTOR CHIP 47UH INDUCTOR CHIP 10UH INDUCTOR CHIP 10UH
D905 D906 D907	8-719-302-88 8-719-302-88 8-719-302-88	DIODE MA152WK DIODE MA152WK DIODE SEL2913K-D	L501 L502	1-412-029-11 1-412-039-51 1-412-032-11	INDUCTOR CUID TOUR
D908 D909 D910	8-719-302-88 8-719-302-88 8-719-302-88	DIODE SEL2913K-D DIODE SEL2917 N-D DIODE	L504 L505	1-412-039-51 1-412-039-51 1-410-097-31	INDUCTOR CHIP 100UH INDUCTOR CHIP 100UH INDUCTOR CHIP 100UH
D951 D952 D954 D955	8-719-302-88 8-719-302-88 8-719-302-88 8-719-302-88	DIODE SEL2913K-D DIODE SEL2913K-D DIODE SEL2913K-D DIODE SEL2913K-D	L802 L803	1-410-997-31 1-410-997-31	INDUCTOR CHIP 2.2UH INDUCTOR CHIP 2.2UH 2.2UH
IC101	8-759-983-82 8-759-710-79	IC PCM66P-J	LCD701 LCD801	1-808-771-11 1-808-770-11	DISPLAY PANEL, LIQUID CRYSTAL DISPLAY PANEL, LIQUID CRYSTAL
IC103	8-759-710-79	IC NJM2107F	M901 M902	A-3133-384-A A-3133-334-A	MOTOR ASSY, CLV MOTOR SUB ASSY, FEED
1 C201 1 C202 1 C203	8-759-983-82 8-759-710-79 8-759-710-79	IC NJM2107F IC NJM2107F	Q1 02	8-729-921-81	TRANSISTOR 2SD1781K-QR-T97 TRANSISTOR 2SD1781K-QR-T97 TRANSISTOR 2SD1781K-QR-T97
1 C301 1 C302 1 C305	8-752-332-80 8-752-334-07 8-759-230-43	IC PCM66P-J IC NJM2107F IC NJM2107F IC CXD1160AQ IC CXD2551M IC TC7S04F	Q201 Q202 Q203	8-729-921-81	TRANSISTOR 2SD1781K-QR-T97 TRANSISTOR 2SD1781K-QR-T97 TRANSISTOR 2SD1781K-QR-T97
I C306 I C401 I C402	8-752-039-94 8-759-230-43 8-759-977-71	IC CXA1263M-T3 IC TC7S04F IC GP1F31T (OPTICAL DIGITAL OUT)	Q301 Q303 0401	8-729-921-81 8-729-921-81 8-729-904-87	TRANSISTOR 2SD1781K-QR-T97 TRANSISTOR 2SD1781K-QR-T97 TRANSISTOR 2SB1197K-R
I C502	8-752-033-55 8-752-033-98 8-759-710-79	IC CXA12/IQ IC CXA12/IQ	Q402 Q403	8-729-901-78 8-729-901-00	TRANSISTOR 2SC2412K TRANSISTOR DTC124EK TRANSISTOR 2SD1781K-QR-T97
IC505	8-759-030-17 8-759-230-43 8-752-332-38	IC TC7S04F	Q407 Q408 Q409	8-729-216-22 8-729-903-10	TRANSISTOR 2501761K QK 197 TRANSISTOR 2501162G TRANSISTOR FMW1 TRANSISTOR 2501182F5-Q
I C801		IC CXK5816MA-15L IC CXP5086-608Q IC BA10339F	Q410 Q411 Q412	8-729-901-03 8-729-901-00	TRANSISTOR DTC144WK TRANSISTOR DTC124EK TRANSISTOR RN1401
I C851		IC TC7S32F IC MN18762-SND-3 IC MC74HC74AF	Q413 Q414 Q415	8-729-901-78 8-729-901-05	TRANSISTOR 2SC2412K TRANSISTOR DTA124EK TRANSISTOR DTC144WK
IC854	8-759-013-92 8-759-013-92 8-759-231-30	IC MC74HC164F	Q416 Q417	8-729-901-00 8-729-921-84	TRANSISTOR DTC124EK TRANSISTOR 2SB1182F5-0
I C857 I C858	8-759-234-10 8-759-234-10 8-759-234-10 8-759-986-85	IC TC7S32F	Q418 Q420 Q421 Q422	8-729-907-39 8-729-901-05	TRANSISTOR FMW1 TRANSISTOR IMD2 TRANSISTOR DTA124EK TRANSISTOR DTC124EK
	1-563-281-51	JACK (DC IN 9V)			

Ref.No.	Part No.	Description			Ref.No.	Part No.	Description			
Q423 Q424 Q425	8-729-116-06 8-729-901-00 8-729-216-22	Description TRANSISTOR 25K160-KI TRANSISTOR DTC124EK TRANSISTOR 25A812	6		R309 R310 R311	1-216-833-11 1-216-833-11 1-216-841-11	METAL GLAZE	1 0K 1 0K 47K	5% 5% 5%	1/16W 1/16W 1/16W
Q427 Q428 Q429	8-729-902-96 8-729-903-10	TRANSISTOR 2SA812 TRANSISTOR FMS1 TRANSISTOR FMW1			R312 R313 R401	1-216-857-11 1-216-671-11 1-216-832-11	METAL CHIP	1 M 6.8K 8.2K	0.50%	1/16W 1/10W 1/16W
Q430 Q431 Q432	8-729-116-06 8-729-807-33 8-729-901-00	TRANSISTOR 25K160-K0 TRANSISTOR 25B1123-F TRANSISTOR DTC124EK	5 R -T-97		R402 R403 R404	1-216-845-11 1-216-841-11 1-216-861-11	METAL GLAZE	100K 47K 2.2M	5%	1/16W 1/16W 1/16W
Q433 Q435 Q461	8-729-904-87	TRANSISTOR 2SB1112-F TRANSISTOR 2SB1197K: TRANSISTOR 2SB1197K	-R		R405 R406 R407	1-216-106-00 1-216-837-11 1-216-073-00	METAL GLAZE	240K 22K 10K	5% 5% 5%	1/10W 1/16W 1/10W
Q462 Q463 Q464	8-729-921-81 8-729-921-81 8-729-901-05	TRANSISTOR 2SD1781K- TRANSISTOR 2SD1781K- TRANSISTOR DTA124EK	-QR-T9 -QR-T9	7 7	R408 R409 R410	1-216-857-11 1-216-821-11 1-216-033-00	METAL GLAZE	1M 1K 220	5% 5% 5%	1/16W 1/16W 1/10W
Q465 Q466 Q501	8-729-901-00 8-729-921-81 8-729-402-90	TRANSISTOR DTC124EK TRANSISTOR 2SD1781K- TRANSISTOR XN4609	-QR-T9	7	R411 R412 R413	1-216-833-11 1-216-092-00 1-216-830-11	METAL GLAZE	10K 62K 5.6K	5% 5% 5%	1/16W 1/10W 1/16W
Q502 Q503 Q504	8-729-904-87 8-729-920-78 8-729-920-78	TRANSISTOR 2SB1197K TRANSISTOR 2SC2412K- TRANSISTOR 2SC2412K- TRANSISTOR 2SC3396	-R -R		R414 R415 R416	1-216-837-11 1-216-821-11 1-216-021-00		22K 1 K 68	5% 5% 5%	1/16W 1/16W 1/10W
Q505 Q506 Q801	8-729-901-00	TRANSISTOR 2SC3396 TRANSISTOR DTC124EK TRANSISTOR DTC124EK			R417 R418 R419	1-216-657-11 1-216-664-11 1-216-663-11	METAL CHIP	3.6K	0.50%	1/10W 1/10W 1/10W
Q804 Q805 Q806	8-729-901-05 8-729-921-81 8-729-901-05	TRANSISTOR DTA124EK TRANSISTOR 2SD1781K- TRANSISTOR DTA124EK	-QR-T9	7	R420 R421 R422	1-216-697-11 1-216-041-00 1-216-037-00	METAL GLAZE	82K 470 330	5%	1/10W 1/10W 1/10W
Q807 Q808 Q809	8-729-907-39 8-729-901-06 8-729-901-00	TRANSISTOR IMD2 TRANSISTOR DTA144EK TRANSISTOR DTC124EK			R423 R426 R427	1-216-833-11 1-216-861-11 1-217-806-11	METAL GLAZE	10K 2.2M 1		1/16W 1/16W 1/8W
R1 02	1-216-699-11 1-216-699-11 1-216-675-11	METAL CHIP 100K METAL CHIP 100K METAL CHIP 10K	0.50% 0.50% 0.50%	1/10W 1/10W 1/10W	R428 R429 R430	1-217-806-11 1-216-834-11 1-216-826-11	METAL GLAZE	1 12K 2.7K	5% 5% 5%	1/8W 1/16W 1/16W
R1 06	1-216-823-11 1-216-053-00 1-216-813-11	METAL GLAZE 1.5K METAL GLAZE 1.5K METAL GLAZE 220	5%	1/16W 1/10W 1/16W	R435 R436 R437	1-216-821-11 1-216-821-11 1-216-837-11	METAL GLAZE	1 K 1 K 22 K	5%	1/16W 1/16W 1/16W
R114	1-216-823-11 1-216-797-11 1-216-833-11		5%	1/16W 1/16W 1/16W	R438 R439 R440	1-216-041-00 1-216-821-11 1-216-837-11	METAL GLAZE	470 1 K 22 K	5% 5% 5%	1/10W 1/16W 1/16W
	1-216-663-11 1-216-653-11 1-216-823-11		0.50% 0.50% 5%	1/10W 1/10W 1/16W	R441 R442 R443	1-216-821-11 1-216-017-00 1-216-041-00	METAL GLAZE METAL GLAZE METAL GLAZE	1K 47 470	5% 5% 5%	1/16W 1/10W 1/10W
R202	1-216-699-11 1-216-699-11 1-216-675-11	METAL CHIP 100K	0.50%	1/10W 1/10W 1/10W	R444 R469 R471	1-216-675-11 1-216-833-11 1-216-821-11	METAL CHIP METAL GLAZE METAL GLAZE	10K 10K 1K	0.50% 5% 5%	1/10W 1/16W 1/16W
R206	1-216-823-11 1-216-053-00 1-216-813-11	METAL GLAZE 1.5K	5% 5% 5%	1/16W 1/10W 1/16W	R472 R501 R502	1-216-821-11 1-216-024-00 1-216-079-00	METAL GLAZE METAL GLAZE METAL GLAZE	1 K 91 18K	5% 5% 5%	1/16W 1/10W 1/10W
R214	1-216-823-11 1-216-797-11 1-216-833-11	METAL GLAZE 10	5% 5% 5%	1/16W 1/16W 1/16W	R503 R504 R505	1-216-834-11 1-216-073-00 1-216-105-00	METAL GLAZE METAL GLAZE METAL GLAZE	12K 10K 220K	5% 5% 5%	1/16W 1/10W 1/10W
R222	1-216-663-11 1-216-653-11 1-216-823-11	METAL CHIP 1.2K		1/10W 1/10W 1/16W	R506 R507 R508	1-216-837-11 1-216-835-11 1-216-069-00	METAL GLAZE METAL GLAZE METAL GLAZE	22K 15K 6.8K	5% 5% 5%	1/16W 1/16W 1/10W
R304 R307	1-216-821-11	METAL GLAZE 68 METAL GLAZE 1K	5% 5% 5%	1/16W 1/10W 1/16W 1/16W	R509 R510 R511	1-216-833-11 1-216-150-00 1-216-839-11	METAL GLAZE METAL GLAZE METAL GLAZE	10K 10 33K	5% 5% 5%	1/16W 1/8W 1/16W

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description				
R512	1-216-837-11	METAL GLAZE	22K	5%	1/16W	R811	1-216-097-00	METAL GLAZE	100K	5%	1 /1 0W	
R513	1-216-859-11	METAL GLAZE	1.5M	5%	1/16W	R812	1-216-824-11	METAL GLAZE	1.8K	5%	1 /1 6W	
R514	1-216-851-11	METAL GLAZE	330K	5%	1/16W	R813	1-216-821-11	METAL GLAZE	1K	5%	1 /1 6W	
R51 5	1-216-833-11	METAL GLAZE	10K	5%	1/16W	R814	1-216-298-00	METAL GLAZE	2.2	5%	1/10W	
R51 6	1-216-843-11	METAL GLAZE	68K	5%	1/16W	R815	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R51 7	1-216-845-11	METAL GLAZE	100K	5%	1/16W	R816	1-218-163-11	METAL GLAZE	120K	1%	1/10W	
R518	1-216-106-00	METAL GLAZE	240K	5%	1/10W	R817	1-216-694-11	METAL CHIP	62K	0.50%	1/10W	
R519	1-216-844-11	METAL GLAZE	82K	5%	1/16W	R818	1-216-665-11	METAL CHIP	3.9K		1/10W	
R520	1-216-844-11	METAL GLAZE	82K	5%	1/16W	R819	1-216-654-11	METAL CHIP	1.3K		1/10W	
R521	1-216-837-11	METAL GLAZE	22K	5%	1/16W	R820	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R522	1-216-845-11	METAL GLAZE	100K	5%	1/16W	R821	1-216-086-00	METAL GLAZE	36K	5%	1/10W	
R523	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W	R823	1-216-857-11	METAL GLAZE	1M	5%	1/16W	
R524 R525 R526	1-216-118-00 1-216-833-11 1-216-841-11	METAL GLAZE METAL GLAZE METAL GLAZE	750K 10K 47K	5% 5%	1/10W 1/16W 1/16W	R824 R826 R831	1-216-837-11 1-216-833-11 1-216-845-11	METAL GLAZE METAL GLAZE METAL GLAZE	22K 10K 100K	5% 5% 5%	1/16W 1/16W 1/16W	
R527	1-216-687-11	METAL CHIP	33K	5%	1/10W	R832	1-216-849-11	METAL GLAZE	220K	5%	1/16W	
R528	1-216-103-00	METAL GLAZE	180K		1/10W	R833	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R529	1-216-062-00	METAL GLAZE	3.6K		1/10W	R839	1-216-837-11	METAL GLAZE	22K	5%	1/16W	
R530	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W	R851	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R531	1-216-121-00	METAL GLAZE	1M		1/10W	R852	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R532	1-216-687-11	METAL CHIP	33K		1/10W	R853	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R533	1-216-833-11	METAL GLAZE	10K	5%	1/16W	R854	1-216-081-00	METAL GLAZE	22K		1/10W	
R534	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W	R855	1-216-678-11	METAL CHIP	13K		1/10W	
R535	1-216-821-11	METAL GLAZE	1K	5%	1/16W	R856	1-216-651-11	METAL CHIP	1K		1/10W	
R536	1-216-846-11	METAL GLAZE	120K	5%	1/16W	R857	1-216-658-11	METAL CHIP	2K	0.50%	1 /1 0W	
R537	1-216-846-11	METAL GLAZE	120K	5%	1/16W	R858	1-216-667-11	METAL CHIP	4.7K		1 /1 0W	
R538	1-216-841-11	METAL GLAZE	47K	5%	1/16W	R859	1-216-675-11	METAL CHIP	10K		1 /1 0W	
R539	1-216-857-11	METAL GLAZE	1 M	5%	1/16W	R860	1-216-682-11	METAL CHIP	20K	0.50%	1/10W	
R540	1-216-073-00	METAL GLAZE	1 OK	5%	1/10W	R901	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R542	1-216-847-11	METAL GLAZE	1 5 OK	5%	1/16W	R902	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R543 R544 R545	1-216-847-11 1-216-825-11 1-216-838-11	METAL GLAZE METAL GLAZE METAL GLAZE	150K 2.2K 27K	5% 5% 5%	1/16W 1/16W 1/16W	R903 R904 R951	1-216-021-00 1-216-033-00 1-216-033-00	METAL GLAZE METAL GLAZE METAL GLAZE	68 220 220 220	5% 5% 5%	1/10W 1/10W 1/10W	
R546 R548 R549	1-216-840-11 1-216-829-11 1-216-857-11	METAL GLAZE METAL GLAZE METAL GLAZE	39K 4.7K 1M	5% 5% 5%	1/16W 1/16W 1/16W	R952 1-216-033-00 RV401 1-237-325-11 RV402 1-237-328-11 RV501 1-230-869-11		METAL GLAZE 220 5% 1/10W RES, ADJ, METAL GLAZE 4.7K RES, ADJ, METAL GLAZE 47K RES, ADJ, METAL GLAZE 4.7K				
R550 R551 R552	1-216-825-11 1-216-825-11 1-216-827-11	METAL GLAZE METAL GLAZE METAL GLAZE	2.2K 2.2K 3.3K	5% 5% 5%	1/16W 1/16W 1/16W	RV502 RV503	1-230-871-11	RES, ADJ, MET	AL GLA	ZE 22K ZE 47K		
R553 R554 R555	1-216-825-11 1-216-049-00 1-216-861-11	METAL GLAZE METAL GLAZE METAL GLAZE	2.2K 1K 2.2M	5%	1/16W 1/10W 1/16W	RV505 RV801	1-237-575-11 1-230-873-11 1-237-143-11					
R556 R557 R601	1-216-109-00 1-216-857-11 1-216-841-11	METAL GLAZE METAL GLAZE METAL GLAZE	330K 1 M 47K	5% 5% 5%	1/10W 1/16W 1/16W	\$701 \$801 \$802 \$803	1-571-099-11 1-571-484-11 1-570-204-11 1-570-204-11	SWITCH (LIMIT) SWITCH, KEY BOARD (ENTER REMAIN PLAY KEY) SWITCH, KEY BOARD () SWITCH, KEY BOARD ()				
R602	1-216-845-11	METAL GLAZE	100K	5%	1/16W	\$804	1-570-204-11	SWITCH, KEY BOARD (►) SWITCH, KEY BOARD (►) SWITCH, SLIDE (HOLD -)				
R603	1-216-841-11	METAL GLAZE	47K	5%	1/16W	\$805	1-570-204-11					
R801	1-216-833-11	METAL GLAZE	10K	5%	1/16W	\$808	1-572-003-11					
R802 R803 R804	1-216-837-11 1-216-837-11 1-216-837-11	METAL GLAZE METAL GLAZE METAL GLAZE	22K 22K 22K	5% 5% 5%	1/16W 1/16W 1/16W	\$901 \$902 \$903 \$904	1-554-911-11 1-571-737-21 1-571-737-21 1-571-737-21	SWITCH, LEAF SWITCH, KEY E SWITCH, KEY E SWITCH, KEY E	BOARD BOARD	(REFLO	W)(+)	
R805 R806 R807	1-216-833-11 1-216-841-11 1-216-851-11	METAL GLAZE METAL GLAZE METAL GLAZE	10K 47K 330K	5% 5% 5%	1/16W 1/16W 1/16W	\$905 \$906 \$907	1-571-737-21 1-571-737-21 1-571-737-21	SWITCH, KEY E SWITCH, KEY E SWITCH, KEY E	BBOARD BOARD	(REFLO	W)(+) W)(-)	
R808 R809 R810	1-216-041-00 1-216-009-00 1-216-827-11	METAL GLAZE METAL GLAZE METAL GLAZE	470 22 3.3K	5% 5% 5%	1 /1 OW 1 /1 OW 1 /1 6W	X301 X801 X851	1-567-737-11 1-577-064-11 1-567-196-11	VIBRATOR, CRY VIBRATOR, CHI OSCILLATOR, C	STAL P CERA	MIC		

ACCESSORY & PACKING MATERIAL

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(US)...ADAPTOR, AC (AC-930A)
(UK)...ADAPTOR, AC (AC-930A)
(E)...ADAPTOR, AC (AC-950W)
(AEP,FRENCH)...ADAPTOR, AC (AC-930AEP)
(US)...ADAPTOR, AC (AC-940)
(E)...AC PLUG ADAPTOR
  1-463-691-11
  1-463-700-11
  1-463-702-11
1-463-705-11
  1-463-968-11
  1-526-565-00
                            (US,UK,E).....BATTERY PACK (BP-2EX) (AEP,FRENCH)...BATTERY PACK (BP-2EX)
  1-528-297-11
  1-528-297-21
  1-555-658-21
                           CORD. CONNECTION
                            (AEP,FRENCH,UK,E)...MANUAL, INSTRUCTION (US)......MANUAL, INSTRUCTION (AEP).....MANUAL, INSTRUCTION
  3-750-539-11
  3-750-539-21
  3-750-539-41
  4-920-407-01
                            (US)...BAG, PROTECTION CASE, CARRYING
  4-926-173-01
*4-926-192-01
                            CUSHION (UPPER)
                            (US,E)............CUSHION (LOWER)
(AEP,FRENCH,UK)...CUSHION (LOWER)
 4-926-193-01
*4-932-701-01
                            (US)....INDIVIDUAL CARTON
(E)...INDIVIDUAL CARTON
(AEP)...INDIVIDUAL CARTON
(FRENCH,UK)...INDIVIDUAL CARTON
*4-926-194-01
*4-926-199-01
*4-932-702-01
*4-932-704-01
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